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EDITORIAL.

EUROPEAN CHRONICLES.

OXYGENATED WATER.—Probably the use of oxygenated water in the dressing of infectious wounds has not found extensive or even any application in veterinary practice. Its advantages are, however, very great, and many human surgeons have taken advantage of its properties. However, while these are quite important, the use of this water is not without inconvenience or even danger; such as, for instance, the danger of explosion, the alteration of the parts of instruments made of rubber or of leather, which are used to apply it; or, again, and this is most important, the great and long pain that patients endure by the irrigation.

Besides all of these objections, which might be overlooked in veterinary surgery, there is another which a Corresponding Member of the Royal Academy of Medicine of Belgium, Mr. C. Moreau, has a tendency to consider as a great danger, not yet recognized, but which he says may put the life of a patient in danger. This objection has been the cause of sudden death in a patient, whose thigh had been amputated and in which the stump had a frightful secondary hæmorrhage, eight days after the operation. Taking into consideration the destroying influence of oxygenated water, the gentleman thought that perhaps the accident was due to that influence upon the catgut which had been used to ligate the large vessels and to the subsequent disorganization of the obliterating clots.

Having failed to examine the stump of the leg of the patient after death, Mr. M. placed pieces of catgut similar to those which had been used in the operation, one in a tube containing artificial serum, another in a tube containing oxygenated water. In the first the catgut remained in perfect condition, while in the latter it was disorganized.

The conclusions to be derived are quite positive: (1) There is danger in irrigating wounds of amputation (or any other, we should think) with oxygenated water when in those wounds ligatures with catgut have been applied; (2) if for any reason such irrigations are to be resorted to in the course of a treatment, it will be prudent, during the operation, to ligate large vessels with other means than catgut, thick braided silk, for instance.

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A FORTUNE FOR A CURE FOR TUBERCULOSIS.—Perhaps our memory is serving us poorly, but it seems to us that when we were young we heard of enormous prizes offered for successful treatment of some contagious diseases, and among them we think rabies and glanders were those for which the biggest rewards were offered. Rabies, if not curable, is, thanks to Pasteur, now preventable. Glanders—well, Nocard has proved to us that in some cases glanderous horses malleined several times would at last stop reacting, and at post-mortem would be found free from glanders. Did Pasteur and Nocard receive the prizes we heard of in our youth? We do not know; but still the idea of stimulating scientific labors is not extinguished, and as our friend Pion says in the *Semaine Veterinaire*: "Physicians and veterinarians have urgent reasons other than glory alone to stimulate them in fighting the universal and fatal contagion of tuberculosis. The following prize is indeed worthy of consideration: '*François Joseph Audiffred Prize.*—An income title of 24,000 francs (say $5000). This prize shall be given to the person who, without distinction of personality or profession, will in the length of twenty-five years from 1896 discover a curative or preventive, considered efficacious and

sure, against tuberculosis, by the Academie de Médecine of Paris.' "

This will certainly stimulate the courage of many workers, and the bacillus of Koch will have to look out very close if it wishes to escape the enormous army of searchers and bacteriologists which all over the world will conspire against it.

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SEROTHERAPHY is the method of treatment which borrows its agents and therapeutic means from natural or artificial serums: *natural*, such as that of the physiological blood, that of the blood from cured or convalescent individuals, that of immunized animals; *artificial*, although this expression is scarcely properly applied, for saline solutions which do not resemble, even roughly, the complex composition of the serum of the blood. But debatable as it may be, it is admitted, and will probably stay in ordinary nomenclature.

Of the natural serums used in veterinary practice, but little can be said, as, perhaps, with the exception of the antitetanic serum, which is considered essentially as a preventive, they have found but little application in veterinary medicine. It is true, however, that the antistreptococcic serum of Maroneck has been used with more or less satisfaction; perhaps, also, that of Calmettes, and I believe also attempts have been made with the antidiphtheric serum. The typical among the artificial serum is the secretion of chloride of sodium (ordinary salt), although there are others made of various saline solutions, but which have somewhat the same essential properties. The medicated serums are simple serums to which various drugs have been added.

The type of the artificial serum, the solution of common salt, so-called physiological, is quite extensively used in human medicine, and the benefits which have and are obtained by its use are matters of record in many medical journals in Europe. In a previous article we have already briefly alluded to the subject, and a discussion which took place lately at the Société

Centrale de Médecine Veterinaire in Paris, brought the question of serotheraphy to the front, and explains the present remarks of our "Chronicle" of to-day.

Pleurisy and its natural sequela, effusion, was discussed, and while the general opinion sustained by such old clinicians as Nocard, Trasbot, Leblanc and others, that pleurisy was and had always been a very serious affection, more commonly followed by death than by recovery, younger members were quite in number who claimed that the prognosis of the affection had lost a great deal of its severity, by the more frequent application of thoracentesis, which, with the antiseptic measures of the present surgery, was no longer a dangerous operation, and since serotheraphy was added to it.

In the *Repertoire*, a journal published by Mr. Laquerriene, a series of articles have appeared from a military veterinarian, Mr. Brocheriou, in which the subject is extensively treated and eight cases of serious pleurisy with abundant effusion are recorded as owing their radical recovery to thoracentesis, and to the injection of artificial serum. The result is too great to be ignored, and the addition to the ordinary treatment too simple not to deserve a trial.

The artificial serum is readily prepared. Seven and a half parts of chloride of sodium are dissolved in one thousand of water. The injection is more ordinarily done subcutaneously, but has also been used by Mr. Brocheriou in the veins. To inject, the solution is placed in a closed vase hanging 9 or 10 feet above the patient. The vase is provided with a rubber tube, at the end of which is the trocar. The flow is regulated by a small brass cock. The injection must be made very slowly, four hours being required to inject about 3 litres of serum. Minute antiseptic measures are required. The subcutaneous injection is made on a level and a little back of the cartilage of the shoulder. The jugular is used when venous injection is resorted to. The quantity of serum to inject seems to vary according to the case, 2, 3, 4 litres have been injected under the skin, 1 litre and a half in the jugular, at a time. Some

of the patients received only 11 litres altogether, others more; one had 23, of which 3 were in the veins.

How does the injection act in those diseases? According to some authorities, while the use of the artificial serum is indicated in hæmorrhages, the various forms of collapse, some infections and intoxications, they are contraindicated in cases of renal, cardial, pulmonary and arterial lesions. However, when one takes in consideration that artificial serum, very much like the washing of the blood, is an active stimulant of the nervous system, that it stimulates principally the cardial and vaso-motar nervous system, reinforcing the tonicity of the blood vessels and the energy of the heart; and, again, that the effects which are recorded of very abundant diuresis following their uses, there can be but little doubt that great benefit can be derived by them when combined with the mechanical relief obtained by thoracentesis and assisted with the ordinary internal form of treatment.

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ELECTROCUTION.—If, as the REVIEW has always held, the dangers to veterinary practice likely to occur from automobilism are not to be taken as seriously as some pessimists would have us, it must be acknowledged that the use of moving factors to take the place of horses has made enormous progress within the past ten years, and to-day, instead of horses to roll heavy tramways or cars, we meet with the assistance of that force obtained by compressed air, steam, and last, but not least, electricity.

These, however, have their objections, and to speak only of the last, I may mention that the subject of electrocution is the one which occupies at present the close attention of veterinary practitioners in some capitals on the Continent. In Paris, principally, the subject is very seriously considered, and has given occasion to one member of the Société de Médecine Veterinaire Pratique to present a long paper upon the accidents resulting from the use of electricity on some of the tramway lines of the "Gay Capital." The Thomson-Houston or trolley system, either above or under ground, is not very extensively used, but

the system Diatto is, and on several streets where it is applied accidents which have varied in intensity from partial paralysis to complete electrocution and death have been observed in quite sufficient number (some 34 in a month, I believe, on one line) to create severe disputes, lawsuits, refusal of payments by insurance companies, etc.

Of course, the subject is full of interest, and veterinarians are very much perplexed, as the effects of such electricity are not very minutely known, the symptoms which result from an interrupted or from a continuous current the characteristic brain, if any, that excite all these are points of great importance, and it is with the hope of their explanation that a committee has been appointed to carry out a series of experiments on horses which would be placed as near as possible in the conditions met in the street by those traveling upon a track upon which the Diatto system of electricity is employed.

Being a member of the Société de Médecine Veterinaire Pratique, I have had the honor to be named as one of the committee and to assist in the first experiments which were carried out on two horses, and to witness the post-mortem examinations which were made at the laboratory of the chair of pathological anatomy at Alfort.

As that first experiment was only a preliminary, and is to be followed by others, I will postpone to a later day the minute description of the manifestations exhibited by the horses when they were submitted to currents of 550 and 650 volts; but for the present I will only say that one of the horses stood six applications before he was killed by a seventh, having received 550 volts at each time, and that the second horse received first a shock of 650 volts, a second of 700 and a third of the same number, which killed him.

The post-mortems were made the same day and witnessed by a large number of veterinarians. But as stated in the conclusions of previous experiments made by MM. Prevost and Battelli, there were no characteristic lesions—in fact, it may be said that there were none.

In a later communication I will send the REVIEW the minute description of the symptoms presented by the two electrocuted and report the result of the post-mortem examinations.

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THE AGRICULTURAL SHOW.—Quite a change, was it not? The Great Palace, one of the finest, if not the finest, among the buildings of the Exhibition in Paris, has changed destination, and instead of the pictures and sculptures which it contained a few months ago, it gave lately shelter to the show of fat animals, or the agricultural show. This exhibition is usually very large, but this year it has failed to have the same importance, probably due to the limited space which was allowed for the reception of the animals. Breeding stocks and live fowls were excluded, and on that account the event lost a great deal of its attraction.

The exhibition of fat animals was the most important part and was composed of the finest samples of various bovine, porcine and ovine races. Among the principal animals, I noticed a Chardlais steer which weighed 1199 kilogs.—nearly 2500 pounds; then another crossed Chardlais and Durham which turned the scales at 1157 kilogs., and one Normandy with 1122 kilogs.

There were also a very handsome gathering of milch cows—among which the Normandys carried many prizes.

The largest pig weighed 298 kilogs.—over 500 pounds—the others, which were quite handsome specimens, weighed on the average 250 kilogs.

The general arrangement of this show was comparatively good, but I do not know if I am prejudiced; one glance several years back when I visited some of the cattle shows in the States, it seems to me that they were more complete, more thoroughly organized—perhaps I was more familiar with those than I am here; but, with all that, the figures of the weight of some of the animals tell certainly of their right claims to admission at a fat cattle show with justifiable expectation of carrying prizes.

A. L.

FELINE DIPHTHERIA.

We are not sure but that the case of diphtheria in a cat, recorded in this number of the REVIEW, in the department of "Reports of Cases," is the only authentic instance of this disease occurring in private practice in the city of New York. In this case the diagnosis was confirmed by a culture taken from the throat of a suspect and submitted to the Board of Health for microscopical and inoculation tests. The report of the microscopical examiner is that "the culture shows the presence of organisms morphologically identical with the Klebs-Loeffler bacilli," while that of Dr. Park, of the Research Laboratory, emphasizes the correctness of the diagnosis by saying that "the bacilli proved to be fully virulent and true diphtheria bacilli," further remarking that "this is the only case that I have been able to get the bacilli from." Diphtheria has in many instances been artificially inoculated into the feline species, with virulent results, and their susceptibility has for a long time been unquestioned; but here is a case of extremely virulent bacilli inoculated by contact with some affected animal, whether of its own species or the *genus homo*. When the close companionship between the family cat and the young members of the household is considered the danger of transmission can be appreciated, and as the nocturnal perambulations of cats is probably the most prolific source of infection, the operations of castration and ovariotomy may be classed among the most efficient prophylactic measures.

THE lengthy correspondence which has appeared in the pages of the REVIEW for the past few months between Dr. James Robertson, of the Illinois Board of Veterinary Medical Examiners, and Dr. S. H. Swain, of the Illinois Veterinary Medical and Surgical Association, is further added to in this number by the latter gentleman. As the controversy has become narrowed to expressions of personalities, and as no public good can follow its continuance, the REVIEW must ask that the subject be closed so far as it is concerned. Having accorded to

each space for two communications, it assumes that no fault can be found with its desire to see fair play.

MONTANA has secured a model law protecting her food supply, mainly through the efforts of State Veterinarian M. E. Knowles. When a State in the far West can accomplish so much through the single-handed energy of one enthusiastic veterinarian, populous Eastern commonwealths should not longer remain benighted. We congratulate Dr. Knowles on being a veterinarian, and the profession on possessing him as an honored member—but we cannot advocate Helena for the meeting of 1902.

NEBRASKA is in line with a State Veterinarian and deputies. The members of the profession in that commonwealth are placing a scotch behind every turn of the wheel of progress, and they are deserving of the best laws that can be enacted.

ORIGINAL ARTICLES.

OXYGEN AS A THERAPEUTIC AGENT.

BY DR. J. CAMPBELL, CHICAGO, ILL.

Read before the Chicago Veterinary Society, December, 1900.

Oxygen was discovered by Priestly in 1774, the honor of its discovery being divided with Scheele. He demonstrated the fact that dogs, rabbits and other animals, immersed in an atmosphere of oxygen became more lively, active and brilliant; that the dogs could endure greater hardship and a longer chase when allowed to breathe the gas for a short time before the start than similar animals not thus prepared. Later, these results were confirmed by Lavoisier, who still further demonstrated the fact that the muscles of animals repeatedly subject to the influence of oxygen gas became decidedly firmer than the muscles of those who were not subject to the influence of the gas. Among the earliest investigators of repute were Dr. Beddoes and Sir Humphry Davy; they were also assisted by some of the most emi-

nent scientists of their day. These men, after spending much time and money, were forced to abandon it on account of the difficulty and expense in preparing a pure article and making it available. These men were followed in turn, in 1820, by Drs. Hill, Thornton, Gavallo and McCormack somewhat later.

The difficulty and cost of producing oxygen and making it available rendered their efforts in introducing it as a therapeutic agent of no avail. Following these were various men of note in the profession in Europe, such as Goolden, Birch, Alexander, Erichson, Richardson, Demarquay, and others. All of these men have investigated the subject, have used oxygen, and without exception admit its potency in the treatment of disease.

Demarquay's reports to the Academy of Medicine in 1866 at Paris were considered conclusive as far as the subject was covered by him; his reports have never been reproduced in America. Dr. McCormack published a small volume on this subject in London in 1856. Dr. S. B. Birch published a monograph on the subject of oxygen as a curative agent in 1857. The second edition, published in 1858, was the first to command any degree of attention. On page 148 the author says "that oxygen artificially prepared is a powerful, really scientific, and agreeable curative agent, is capable of far more extensive range in its application to the rational treatment of chronic diseases than perhaps any other remedy—is preëminently nature's own therapeutic, affording assistance in her own way without opposing the intentions of her ever present *vis medicatrix*, and is entitled to the position of a curative in a variety of intractable diseases, otherwise incurable by any other known means. It is occasionally the remedy, and the only one worthy the name, in certain contingencies where life must be (and frequently is) sacrificed by neglecting a fair trial of it." He adds also, "that sooner or later oxygen will be universally admitted as one of the most valued remedial agents." This sanguine prediction, made by Dr. Birch, of Manchester, England, in 1858, has not yet been attained on account of the insuperable difficulties of mak-

ing the treatment generally available in private practice.

In this country we have several men of some reputation who have given the subject considerable attention. Dr. A. H. Smith, of New York, who wrote a prize essay on oxygen, published in the *New York Medical Journal* of April, 1870, after large experience and many cases of various kinds treated, says: "It is contrary to the economy of nature that the blood should have the capacity for absorbing more oxygen than nature can supply, under circumstances involving the greatest physiological demand for oxygen." Dr. Smith gives a record of a large number of cases treated, with the results in each case. Following Dr. A. H. Smith was Samuel S. William, A. M., M. D., of Bloomingdale, New York, in four articles published in the *New York Medical Record:* first, October 27, 1883; second, November 10, 1883, September 13 and September 20, 1884. Dr. William had an experience extending over 20 years; after 16 years' experience he says:

"The physiological relations of oxygen are definite and limited, while its nature and potency as a therapeutic agent, as yet not fully understood, is entirely unlimited"; he says, "nor do we yet practically realize the fact, that there is no antiseptic known of equal potency with pure oxygen, or that there is no antiseptic compound which does not contain this vital element." Should this presumption prove to be well founded, it devolves on this microchemic age to devise methods for the convenient and successful use of the real and safe factor, to the exclusion of the noxious, carbonized elements at present so largely composing antiseptic mixtures and thus forever do away with carbolics, salicylic and all other antiseptic septæmia. Pasteur has demonstrated that any form of germ, cultivated in an atmosphere of oxygen, will lose all its virulence.

Among the general profession, from some unknown cause, a sort of chronic impression prevails, based on neither science, reason nor experience, that the therapeutic use of oxygen has been tried and failed. This, however, is not the case. You can trace the entire line, from the discovery of oxygen in 1774

down to the present, and you can find no well authenticated case where it has been properly used and failed. However, the shortcomings of impure and carelessly manufactured gas, have done more than all else to bring the use of oxygen into disregard and discredit and prevent its timely use by the profession in many cases. Still, the use of oxygen as a gas can never come into general use by the profession, on account of the impracticability of moving the generating apparatus around from one patient to another, or of carrying in a suitable receptacle the gas already generated. While vast improvements have been made in the *modus operandi* of obtaining pure oxygen, yet the impracticable part has not and cannot be removed so long as we deal with oxygen in the gaseous form; the fact, however, that oxygen as a gas has been found to be impracticable, does not in any way lessen its therapeutic value, when a means has been discovered by which it can come into practical use. In considering this subject there are a few facts which it will be well for us to bear in mind:—first, a healthy adult, at active exercise in the open air, inspires daily one thousand gallons of oxygen diluted with four thousand gallons of nitrogen. Oxygen from the air is readily absorbed by the blood in the pulmonary circulation, and in the general circulation the oxygen is given up to the tissues and carbon dioxide takes its place in the venous blood.

According to Professor Dalton, carbon dioxide is given off in the pulmonary circulation and oxygen absorbed, while in the general circulation the reverse takes place; oxygen is given up to the tissues and disappears and is replaced by carbon dioxide in the venous blood.

Burdon-Sanderson has further shown that the red blood cells are the main carriers of oxygen and that the condition in inflammation, in its earlier stages, essentially consists of a sluggish and finally immobile condition of the white blood cells, from want of a due and regular supply of oxygen; and, further, that the activity of the white blood cells is in exact proportion to the amount of oxygen present. This effectually refutes the

idea held by some, that an over supply of oxygen to any part necessarily induces an inflammatory condition.

The carbon dioxide, which is always found in much larger proportion in venous than arterial blood, is the result of the decomposition of the cell tissue ; this is retrograde metamorphosis and is a condition that continues without interruptiom from birth until death. Therefore, imperfect or impeded metamorphosis is disease, while arrested metamorphosis is death.

Oxygen is the chief, and decidedly the most important element, in the process of tissue building. It is a fact that cannot be successfully controverted, that oxygen is a constructive agent rather than a destructive, as taught by many. Any one who has given this subject that careful consideration to which it is entitled, must arrive at the inevitable conclusion, that the primary action of oxygen contributes directly toward constructive rather than destructive metamorphosis.

Instead of continually breaking down tissues by oxidation, as many suppose without thinking, the fact is that oxygen, and oxygen only, by supplying in itself an essential element toward such repair, and by stimulating and correcting at every step the assimilative process, is the only agent that can bring about and consummate the reparative process. While this is true, yet it is also true that oxygen is the chief agent in the work of destructive, retrograde metamorphosis ; this is its secondary action within the economy. In order to fully understand the physiological and pathological conditions that obtain within the economy, it is of the utmost importance that we fully understand and realize the true action of oxygen, and the part it plays in relation to the problem we designate as life and death.

What is life, and how is it sustained—and what is death? These are questions that might be properly discussed in this connection, but as a discussion of these points would be purely metaphysical and of no practical value to either the physician or surgeon, we pass them by and confine our remarks to that which is practical. Oxygen and carbon dioxide both exist in the blood ; in arterial blood, in the proportion of about 1 to 2 ½,

while in venous blood the proportions are materially changed; here we find the proportions about one to four, showing a large increase of carbon dioxide.

The venous blood, in its passage through the pulmonary circulation, gives off its carbon dioxide and receives a fresh supply of oxygen; this new supply of oxygen is in the general circulation given up to the tissues, for the purpose of supporting, strengthening and building up any destroyed and broken-down part of the economy that may exist. This process of building up and tearing down is a continuous process, beginning with life and only ending with death. Therefore, any condition which will interfere with a full normal supply of oxygen being received by the economy will result in disease. So also impeded or retarded metamorphosis will mean the same thing—disease.

Fully realizing and understanding the above conditions, we are better prepared to combat disease, which is the result of the derangements of some of the conditions before stated, which may be aggravated by the existence of some specific germ of disease.

Take an average man in good health weighing 160 pounds, with moderate exercise in the open air during the day, he will absorb into the blood, during its passage through the pulmonary circulation, 160 gallons of oxygen from the air; to obtain this amount of oxygen he is obliged to inhale about 5000 gallons of air; 4000 of it being nitrogen and 1000 oxygen. The amount inhaled varies very considerably, depending on conditions—the amount of exercise taken, etc. But for practical purposes, we will assume that from 10 to 20 per cent. of the oxygen inhaled into the lung is utilized by the blood, which will give us very close to one gallon of oxygen for each pound the man weighs; this will be the normal supply for 24 hours. With that amount of oxygen absorbed by the blood in its passage through the lungs, in addition to what may be utilized through the stomach, etc., the man will retain a normal amount of health.

In a normal condition we can assume that the circulation of the blood is uniform and regular throughout the body; this being true, it will require about one gallon of oxygen for each pound of the body on an average, and it is only on the average supply that we can base our figures. Under certain conditions and under certain circumstances, however, this will very materially change. As we have before stated, carbon dioxide is the result of retrograde metamorphosis of the tissues; in venous blood, it is in about the proportion to oxygen of one to four; this seems to be the limit set by nature where the work of reparation can take place. While that may be the proportion in the general venous circulation, yet there are local conditions where the amount of carbon dioxide is much increased, and we must remember that when the proportion of oxygen to carbon dioxide is increased beyond that point, the work of reparation is slow, and as the proportion of carbon dioxide increases, the reparative process stops altogether. For the purpose of fully demonstrating the point I wish to make, suppose we select from the great variety of wounds and old sores that are met with in practice, the class of sores generally known as indolent. While there are many varieties of sores that yield readily to almost any kind of proper treatment, and even some that are called indolent may also yield to good treatment, yet the special condition of sore to which I refer has no tendency to heal; in fact, it cannot be healed by any treatment now generally known to the medical profession. For this reason it has been called the "Opprobrium Medicorum." All the varieties of caustics and cauteries have been used without avail—the acid, alkalies and metallic caustics, as well as the actual cautery, and the only result, as a rule, so far obtained, has been to increase the size without in any way changing its indolent character. The medical profession for many years have recognized the fact that this indolent condition was brought about and maintained by an imperfect or impeded circulation to the affected part; consequently, all their efforts have been directed to acquiring a means by which the impediment to the circulation could be

removed, fully believing that a full and free circulation to the affected part would very soon change the indolent character of the ulcer; that being accomplished, the sore would rapidly heal. It has long been held by many in the profession, and is still held by some, that the free use of caustics or the actual cautery, by setting up a local inflammation in the part, will attract a full circulation and maintain it until the solution of continuity has been repaired. While this mode of treatment looks well from one standpoint, and from that standpoint appears rational, yet we know that in practice it is an absolute failure in the conditions to which I refer. The reason becomes very plain to us when we study the conditions that are necessary to produce and maintain an indolent sore.

I agree with the general teaching, that this condition is produced by a diminished circulation to the part, but I do not agree with the generally accepted statement that the diminished circulation is *per se* the cause. I believe, as I shall fully demonstrate to you, that the quality of the circulating medium and not the quantity is responsible for the conditions. If you examine the blood in an ulcer or wound of this kind, you will find that the proportion between oxygen and carbon dioxide is considerably increased beyond the ratio of one to four. This being true, we understand at once why the sore will not heal: we know why the application of any cautery is perfectly useless and why the general antiseptics at present in use are of no avail. This brings us to a consideration of the cause or causes which produce this condition and the means by which the cause can be eliminated. As to causes, they are both general and local. Anything that will decrease the normal supply of oxygen in the blood must necessarily increase in the same ratio the amount of carbon dioxide. In this paper it will only be our purpose to deal with local causes; and, first, we believe the primary cause is a lack of oxygen in the blood, generally local; this produces a sluggish movement of the white blood cells; a little more oxygen removed from the blood and they become immobile; this produces a congested condition which results in

exudation into the cellular tissue; this in turn produces more or less swelling and induration; thrombosis obtains and death to the affected part. To assist in bringing about this condition, there may or may not be a direct injury to the part; if an injury be received, then it might be termed the primary cause of the sore, but an injury would not result in a sore, unless the blood supply to the part was deficient in oxygen. The congested condition of the capillaries often extends for some distance around the central point of injury, or the thrombosis; in either case, the tissues are cut off from a normal supply of blood.

(*To be Concluded in June Number.*)

ACUTE HÆMORRHAGIC ENCEPHALITIS PREVALENT AMONG HORSES IN MARYLAND.

By S. S. Buckley, Veterinarian, Maryland Agricultural Experiment Station, and W. G. MacCallum, Resident Pathologist Johns Hopkins Hospital, Baltimore.

Although a considerable literature on acute encephalitis in horses is to be found in the German and other veterinary periodicals, numerous cases in this country have apparently not been recognized. There has occured recently in Maryland an enzoötic form of cerebral affection which was commonly diagnosed and spoken of as cerebro-spinal meningitis and which was very fatal. The outbreak was preceded by another some months before, and, indeed, several other such outbreaks have occurred in previous years, the disease being thought by most observers to occur when the fodder crops had been bad and it was necessary to feed the animals with mouldy fodder. Experimental investigation is of course necessary before any such statement can be definitely accepted.

The present note, therefore, is intended to call the attention of practitioners to certain changes which have been found at autopsy in the cases examined during the recent outbreak, in order that further observations as to the constancy of the lesion

in such cases may be made. In most of the cases reported as cerebro-spinal meningitis, with symptoms resembling those to be described for this outbreak, the results of autopsies have been said to be negative or lesions were found which were quite insignificant in comparison with the severity of the symptoms.

The symptoms, while fairly constant in their general character, vary greatly in intensity. Cerebral disorder is evident early in the attack. The acute symptoms are sometimes preceded by a gradual falling off in flesh and general "unthriftiness," although this is not always the history. There may be drowsiness associated with an impairment of sight, partial or complete paralysis of the pharynx, twitchings of the muscles of shoulders and thighs, coldness of the extremities, and a general condition of unsteadiness and weakness. In motion the tendency is to walk to one side, or a staggering, objectless gait, possibly depending on the presence of unilateral or bilateral cerebral lesions respectively. The pulse is usually normal—the temperature varies between 96 and 103° F. An elevation of temperature usually indicates secondary complications.

A comatose or delirious condition may follow, death resulting in a great majority of the cases after an illness of from three to four hours to a week. The average course of the disease is very rapid, the animal succumbing after 48 to 72 hours. Cases which recover often become "dummies," the name indicating a permanent cerebral affection with loss of intelligence. It is differentiated from the ordinary purulent encephalitis by its occurrence in an enzoötic form.

Post-mortem Appearances.—At autopsy nothing especial has been noticed in the thoracic or abdominal organs—some inflammation of the nasal mucosa has often been observed. In the central nervous system, however, the lesions have been quite definite and constant, as far as could be judged from four brains from autopsies on horses dying after an acute attack of the disease, which were brought to the laboratory with one from a so-called "dummy" which had died from another cause after having recovered from an acute attack several months before.

In the first four brains the meninges were perhaps somewhat congested, but there was no trace of inflammatory exudate. The brain, however, was not uniform in consistency and soft fluctuating areas could be felt. Section of the brains shows these fluctuating areas to correspond with cavities in the brain substance, filled with a softened pulpy greyish yellow mass of necrotic tissue and a glairy, somewhat opalescent fluid. The necrotic material is in large part mixed with dark blood, and there are very numerous hæmorrhages in the adjacent brain tissue. If a section be made through such an area after first hardening the brain in formalin, the fluid described is found to be coagulated into a gelatinous mass like agar, in which lie shreds and masses of greyish brain substance. The adjacent tissue is somewhat greyish and opaque for a distance of about three mm., and is studded with hæmorrhages. In other such areas the greyish, opaque, crumbly brain substance shows only small bands of the gelatinous material, but in all cases the hæmorrhages are prominent.

The blood vessels in the region of such foci were carefully traced, but no occlusion of their lumen could be found.

The situation of the lesion varies—in one brain there were cavities symmetrically placed in the superior portion of the anterior lobes of the cerebral hemispheres—in front of the motor region and above the lateral and olfactory ventricles, which show no obvious alterations. On one side the cavity measured about 1x2 cm.—on the other side about 5 cm. in diameter; they extend about to the line between the grey and white matter of the cortex, leaving the grey matter as a sort of roof. In another brain there was a large cavity in the white substance of the anterior lobe and a second smaller one in the temporal lobe of the same size, while the opposite hemisphere showed no lesion. A third case showed a lesion in the occipital lobe as well as in the anterior.

Microscopically sections through such a lesion with the adjacent brain substance show a complete disappearance of nervous elements in the immediate neighborhood of the cavity.

The neuroglia cells persist however, and there is a moderate exudation of leucocytes, which are scattered about in small groups. In this marginal zone the walls of the small vessels are generally infiltrated with leucocytes and round cells—they are often occluded by hyaline thrombi—others are distended with blood, which also fills and widely dilates the surrounding lymph sheath, often breaking through and lying in the tissue. Such areas, densely infiltrated with extravasated blood, are very numerous and correspond with the hæmorrhages so conspicuous macroscopically. As we pass toward the centre of the lesion the brain substance disappears entirely and is replaced by a granular pink-staining débris interspersed with a clear homogeneous material which stains pink and is very highly refractive. This, the gelatinous material described above, gives only the general micro-chemical reactions of hyaline bodies.

Bacteria were searched for in the sections with negative results, and cultures from the fresh brain as well as inoculations of the softened material into animals were similarly negative.

The fifth brain, that of the "dummy," presented on section a greyish, translucent ramifying scar in the substance of the anterior cerebral lobe on one side—microscopically showing only a loose fibrous tissue; this was evidently a healed lesion. From these cases it would seem that we are justified in concluding that the disease recently so prevalent is an enzoötic form of acute hæmorrhagic encephalitis rather than cerebro-spinal meningitis.

TARSAL TENOTOMY.

By Robert Dickson, D. V. S., New York City.

Read before the April meeting of the Veterinary Medical Association of New York County.

It is not with the idea of presenting to you a new operation, nor a specific in the treatment of exostosis of the hock, but to present an old operation which has been abused in the past, and is now considered by the majority of practitioners as a useless

operation. The reason why the operation has reached its present position is that at the time of its introduction it was proclaimed a "cure all"; the actual cautery was laid aside, and every horse with a spavin was subjected to it, without regard to the location, condition and character of the enlargement, and because it failed to relieve every case, whether favorable to the operation or not, it was condemned, and to-day is, comparatively speaking, an unknown operation.

I contend and will present to you my reasons for believing that it is a most useful operation when performed in cases where the symptoms indicate it. In these cases the percentage of recoveries are much greater than you will get from the actual cautery.

The operation consists in dividing the internal branch of the flexor metatarsi, or curean tenotomy.

Liautard, in his work on "Operative Veterinary Surgery," says that the operation was first recommended by Abildgaard and Viborg, and later performed by Lafosse, Mantal, Grad and Dieckerhoff, stating the operation was commonly performed on this continent, and as all operations upon their introduction were abused and did not receive the credit to which they were fairly entitled, stating that it is indicated for the relief of the pressure which this cunean branch of the flexor metatarsi makes upon the distended periosteum of the more or less enlarged tarsal exostosis, and when the exostosis is, strictly speaking, the only lesion of the hock, it will prove beneficial, but if some articular disease accompany the exostosis the result is uncertain.

The operation as performed in the past and as recommended by Liautard, is as follows:

Instruments necessary: Scissors, straight and convex bistouries, forceps, curved director and a curved tenotomy knife.

The animal is cast on the side of the leg to be operated upon; the upper leg is now carried forward and secured on the upper forearm. The hair is next clipped over the tract of the tendon, which can be readily located and identified by the oblique groove running across the upper part of the bony enlargement.

An incision two and a half inches long is now made with a convex bistoury, either parallel to the tendon or slightly oblique and across its direction, this incision extending down to the bursa. The tendon can now be felt and outlined. The bursa is now raised up with the forceps and opened, exposing the tendon; this is raised up by a curved director and divided with the tenotomy knife, the wound being closed with one stitch and an antiseptic dressing applied, which completes the operation.

At the present day we have improved upon the method described, and in my practice the following method has given the best results.

Instruments.—Scissors, convex bistoury, curved director, and neurotomy band or two blunt tenaculums.

Preparation of Patient.—The operation is performed standing, the patient being placed upon the floor in a good light, and if possible good antiseptic surroundings, standing with the leg upon which you wish to operate eight inches in front of the opposite. The front foot of the affected side is held up by an assistant, and a twitch applied. The hair is closely clipped from the inside of the hock, and the operating surface rendered as near aseptic as possible.

Technique.—A dram of a ten-per-cent. solution of cocaine is now injected over the tendon at the point of operation, and when the part has responded to the cocaine an incision one and a half inches long is made in a downward and forward direction directly across the course of the tendon, this incision extending through all tissues down to the bursa. The neurotomy band or tenaculums are now brought into use and applied so that the lips of the incision are held wide apart and the bursa exposed, which is raised with the forceps and divided with either scissors or bistoury, exposing the tendon, which is now raised with the curved director and divided with the bistoury. The wound is closed with one stitch, a heavy thick layer of collodion is applied over the incision, a layer of antiseptic cotton over that, and all held in place by bands of adhesive plaster. The wound is dressed on the following day and continued until cica-

trization is complete, which will be in from one week to ten days.

By this method of operating the hæmorrhage is slight and will subside with no treatment in time for you to apply your dressing, and very little swelling follows the operation.

Some practitioners advise the removal of a section of the tendon, which I believe unnecessary, as it only complicates and delays cicatrization and does not have any bearing upon the result.

According to all authorities, the only exostoses giving the desired result from the operation are those situated high in the tarsal region and forming a pronounced projection from the hock, or, in other words, a high and prominent spavin.

While I will admit that the results in these cases are more pronounced immediately after the operation, I believe that in all cases where the tarsal groove is at all involved, the result will be satisfactory and equal to the actual cautery, for you not only relieve the pressure caused by this tendon, but also create a counter irritation greater and far more effective than that caused by a blister or fire-and-blister.

I will answer the argument that it is useless, where you have the articular surface involved, in Yankee fashion, by asking, "How many cases with articular complications do you relieve with the actual cautery?" In my practice I confess articular lameness is not a specialty.

I will submit to you a brief report of a few cases that I have operated upon during the past year:

No. I.—Bay gelding, ten years old; a large prominent exostosis, situated high; this horse had been fired and blistered three times, and blistered alone six times during the past two years, and never went sound. Tarsal tenotomy performed on January 10, 1900, the horse being very lame at the time. Cicatrization complete and going sound in ten days; has worked steadily since that date at all kinds of work, including hansom, and has never taken a lame step since.

No. II.—Bay gelding, 16 years old, very large spavin with

more or less anchylosis, very lame, only touching the toe on walking and unable to trot. Operated on March 10, 1900; improvement slow for about two months, when he was able to trot and work, but still showed some lameness in trotting, due to anchylosis or mechanical lameness.

No. III.—Bay gelding, six years old; small spavin, very slight enlargement. Operation May 16, 1900; cicatrization complete in two weeks, with no improvement in lameness. Being a work horse, was put to slow work, and two months from the time of operating was going sound, and is at the present time.

No. IV.—Brown gelding, eight years old; high, prominent spavin. Fired and blistered twice during past year, with only temporary relief; operated on Jan. 6, 1901, when very lame; cicatrization complete in ten days and going sound; is at present only receiving light exercise, and shows no lameness. Am unable to say what he will do when put to work.

No. V.—Black gelding, ten years old, lame for the past three years; large low spavin, with only a part of the groove involved. Operated on July 21, 1900. After recovering from the operation showed decided improvement, and has maintained the improvement since that time, being able to work every day, and now seems to continue to improve slowly.

No. VI.—Black pony, five years old, lame since a three-year-old and unable to work; a high spavin involving the whole extent of the groove; operated on May 10, 1900; on trotting immediately after the operation went sound, and has continued to work and go sound since that date.

One point upon which I am cloudy is, does the spavin enlarge after the operation as a result of the traumatic periostitis? In three cases I believe a slight increase in development followed, in the others it did not.

INFECTIOUS ULCER OF THE VULVA OF CATTLE.

By Dr. C. Miller, St. Louis, Mo.

Read before the Missouri Veterinary Medical Association, October, 1900.

In presenting this short paper on the above mentioned disease my object is not to add anything particularly new or important, although this may be to many of those present, to the domain of veterinary pathology, but rather to assist, if possible, in furnishing some reliable literature on a disease, though so far uncommon, yet sufficiently important to demand our studious attention.

In contributing this article, therefore, the object will be twofold: 1st. Following out the oft-repeated adage that a careful observer makes a skillful practitioner, but his skill dies with him unless by recording his observations he thus adds to the knowledge of his profession in general, and thereby assists by such facts in building up a strong edifice of veterinary science. 2d. By giving a somewhat accurate description of the disease in question, and my limited experience with it, I hope to not only make it easy for other members of the profession, especially the younger members, who may chance to read this article, to recognize the affection immediately, but to intelligently treat the malady with professional accuracy and certainty, and not be left as your humble colleague to diagnose, instruct and treat a disease which he had not even heard of or seen before; hence without any previous knowledge or assistance of any kind. I well remember the embarrassing position I was placed in, and it is with a view of preventing you from being caught in a similar circumstance that I present this paper at this particular meeting. To the best of my knowledge, and I have made some considerable inquiries along this line, there is only one article on this disease on record, and that is a paper contributed by our worthy colleague, Dr. S. Stewart, and read before the M. V. M. A. in the summer of 1898 at their meeting in Kansas City. Doubtless many of you have seen or heard more or less of this affection, especially those of you who were practising during the

winter of 1898 in the Central Western States. This peculiar disease, as I have learned since, was quite generally distributed over four or five States, namely, Iowa, Missouri, Kansas and Nebraska. Other States may have been visited, but not to my knowledge; if so, however, I would be glad to hear the reports of any who may have come in contact with it. In giving a short history of this disease, I don't wish it to be understood that I take issue with Dr. Stewart in the particular name applied.

I have called the affection by the above name simply because in my judgment and experience it best suits the pathological conditions as I found them.

My attention was called to this outbreak in the month of February, 1898, while practising in Ottumwa, Iowa. Several outbreaks occurred in the neighborhood of Blakesburg, and several stockmen came to me for information regarding its nature and probable outcome. I was simply unable to give them any real satisfactory information on the subject, and expressed a desire to go out and see the cases with my own eyes and for my own benefit. On close examination and further inquiries into the history of these particular cases, I still found myself in about as deep water as ever as to a proper scientific name for the affection. I frankly admitted my ignorance of the real nature and importance of the trouble, but promised the parties if there was any literature on the subject I would certainly look it up and be ready to give them some much needed information on my next visit. On returning home I sought wisdom and information from my esteemed brother, who had practised in the State some thirteen years, but without much success, for after exhausting the whole curriculum of veterinary terminology we came to the conclusion it must be a new disease, and hence our duty to give it a name.

The term used in this article was our mutual and final decision, as a fitting appellation of this so far unknown disease, and I will leave it to your judgment as to its correctness or otherwise. The history of the first herd in which I found the

disease is as follows: The herd consisted of twenty calves, thirteen of which were heifers, ranging in age from ten to fourteen months. These calves were highly fed, with open shed for shelter, all in fine condition; in fact, were fat, but had fallen off perceptibly during the siege.

These thirteen heifer calves were all more or less affected when I saw them some eight days after the first appearance of the ulcer. The first thing noticed by the owner one morning was a wound slightly reddened on the lower portion of one of the vulval labia.

No attention was paid to this, however, thinking the old sow had done the mischief while the calf was peacefully asleep under the shed. Not until eight of them were visibly affected was his attention sufficiently aroused and an investigation desired. At this juncture my services were summoned. On the morning of the 8th I arrived at his home and made a hurried examination. We secured several of the affected calves in the stable and made a careful examination of the parts affected.

The first one showing signs of the disease had one lip of the vulva almost entirely eaten off, while the other labia showed a large ulcerous wound, involving the greater portion of its surface. The vulval tissues were so nearly displaced that one could hardly distinguish the animal from a male.

The remaining twelve were all more or less affected, each showing different stages of the same pathological process.

In the remaining five he had not noticed being affected, the ulcers were so small as to escape the attention of a casual observer.

I shall not attempt to give you a lengthy or elaborate description of the distinctive pathological characteristics of this specific ulcer, or endeavor to describe the nature and appearances of the particular micro-organism causing it, but simply and briefly describe its macroscopical appearances as they occur to my memory. This ulcer presented some marked peculiarities, namely, its tendency to spread rapidly, and in the destructive agent confining its action exclusively to the vulval tissues.

The infective agent seemingly having found the proper pabulum and feasted liberally thereon, had no appetite or relish for the rich pastures which lay in such close proximity.

The ulcer in almost every case started in a mere abrasion the size of a pin-head, usually on the internal surface of the labia near the border of the inferior commissure, gradually eating its way through until it appeared as a much larger denuded surface on the outside.

The central part of the ulcer was of a somewhat yellowish color, surrounded by a reddened zone with very irregular borders. On irritating the surface blood would flow quite freely. The temperature of several was taken, but no appreciable disturbance could be detected. The owner said they had not been eating quite so well as usual, and this doubtless accounts for their present falling off in condition, otherwise they seemed perfectly well.

The treatment of these cases could not be considered of very great importance, as I found these ulcers would readily yield to even simple remedies, and not by any means obstinate to heal. However, I will recite the form of treatment adopted in these cases and leave others to profit by its use if they choose. Using carbolic acid as an antiseptic, I took hot water and cleansed the parts, tail included, thoroughly, after which I applied a strong solution of the ordinary white lotion, using a piece of cotton in applying it to the affected parts. The tail, where it came in contact with the vulva, was covered with vaseline, also the parts of the vulva not involved by the ulcer. In those cases where the ulcer was small I touched with a pencil of silver nitrate, which had the effect of arresting the action of the micro-organism at once. In fact, all the ulcers in whatever stage responded immediately to this form of treatment, and commenced healing slowly from the first application. These applications were made for four consecutive mornings, when the healing process was so far advanced that further treatment was deemed unnecessary, and within ten days they were nearly completely healed, with no traces of the disease except in those

cases where the vulval tissues were so nearly completely destroyed before any application was made.

Another farmer some ten miles from this place had a herd of some thirty calves in which the disease made its appearance. He became somewhat alarmed and immediately disposed of them at considerable loss. In a few days he went out and purchased a like number in the surrounding country, placing them in the same yard and feeding them on the same rations. In about ten days these calves showed symptoms of the same disease, and in a few days he was aware that they had contracted the disease. Hearing of his neighbor's experience, he came to me for advice and information. It is useless to tell you I was loaded, and soon relieved him of his anxiety, prescribing the same remedies as before, and sent him on his way rejoicing. I make mention of this latter outbreak simply to establish more firmly the infectious nature of the offending agent.

CHOREA? WHAT IS THE CAUSE?

By D. F. Luckey, Veterinarian Missouri State Board of Agriculture, Columbia, Mo.

On March 22d last, at the request of Dr. A. D. Knowles, of Nevada, Missouri, I accompanied him to the ranch of Mr. David Arnold, Walker, Missouri, to investigate a disease among Mr. Arnold's cattle. On that day we found six or seven head of yearlings convalescing and two sucking calves acting as follows:

Symptoms.—Riding out into the pasture with Mr. Arnold I noticed that the cattle all appeared in a natural condition. They were grazing naturally, ruminating, etc., as one would expect, and seemed to be contented. We gave our attention to a calf which was known to be showing the symptoms in their worst form. When this calf first noticed us it appeared to be slightly afraid. As soon as it was molested it began to manifest the symptoms. The first thing noticeable was a nervous motion of the head from side to side and slightly in an ellipti-

cal direction. The calf standing facing us, it could be seen that the respirations were double the normal in number. The eyes glared. I jumped at it, and in its haste to get away it rapidly lost control of its muscles, going for a short distance in a very awkward, stiff and spraddled gait. A little more excitement which I furnished by jumping at it again and it went down to its knees. Moving along for a few paces, struggling to get back on its front feet, it pitched forward on its neck with its head turned to the right. The hind quarters were still in a standing position. It then fell over on its right side, the head being turned under its body. Another violent effort and it got up to its knees with the head straightened out, but immediately fell over on its left side. As long as we were near enough to cause it any uneasiness it lay there in a helpless and pitiful condition, appearing very much like it might have had an over dose of strychnine. The temperature taken at this time was normal. We walked away about fifty yards and the calf began to recover self-control. During the violent attack of nervous symptoms it was lying flat on its side. It first straightened up to a natural recumbent position, and a little later with some caution rose to its feet. We were absent from the pasture about two hours, looking at some sheep which had shown the same symptoms, and on our return the calf was nursing its mother in a very contented fashion.

These symptoms were shown by all of the affected animals.

During the course of this disease the functions of all the organs except the motor nervous system seemed to go on normally. The general condition of the affected animals was as good as of those showing no symptoms. There was only one death and that in all probability was due to the fact that the yearling, which was found dead, fell into a ditch and died from exhaustion.

History and Surroundings.—Mr. Arnold has constantly on hand an average of two hundred and fifty head of cattle. They are pure bred and high grade Aberdeen-Angus. He has twelve pastures, containing from forty to one hundred and sixty

acres each, all of which are set in grass. They were nearly all set in blue grass, but some in timothy, and all are unusually free from all kinds of weeds and brush. A search for any weed which might be poisonous revealed nothing. The pastures are well drained, well watered, and in every respect almost ideal.

The yearling and two-year-old cattle seemed more subject to these attacks than mature cows or young calves, and do not recover as promptly.

All those showing the symptoms have improved rapidly when put on dry feed, and in from two to four weeks in every case recovery has apparently been complete. However, those which have once been affected and have been cured by feeding on dry feed show a great tendency, on being returned to the blue grass pastures, to become affected again.

From Mr. Arnold I obtained the following interesting history of the disease:

The disease was noticed in about five or six head in 1896, in the fall of the year. A few head became affected each subsequent fall. In the fall of 1898 it was noticed during the dry weather. It never occurred in the winter or spring of the year until 1901, when in March about twelve head were affected. During Christmas week, 1900, about twenty-five head were showing the symptoms, this being the greatest number that was noticed to be affected at any one time. It commonly occurred in October and November. In March, 1901, in a field seeded to timothy and clover, but one corner of which, containing about five acres, was not mowed, a few calves in a herd became affected. On being removed to another pasture all recovered. Cattle in the adjoining pasture, which was set in timothy and clover and had all been mowed, were not noticed to be affected. The disease has not appeared on pastures that have been mowed.

One pasture of forty acres was not used in the summer of 1900. It was kept for winter pasture. In November, Mr. Arnold turned into this pasture about sixty steers, and five became affected inside of a week, when they were all turned out. The

five affected steers were put on dry feed and in a week or ten days showed improvement. Later on they were turned to the blue grass and the symptoms returned in a severe form. On March 23d, after having been on dry feed for about two weeks, the symptoms shown by these five head were not very marked.

On this same forty acre pasture, on the 24th of December, 1900, eighty cows and about twelve calves were placed. In three days as many as twenty cows and calves began to show symptoms. This herd was immediately driven to another pasture, where in the course of two weeks the symptoms became unnoticeable. About the 5th of March they were returned to the-forty acre pasture mentioned above, and on March 23d, 1901, two six-months-old suckling calves had violent symptoms. In these two cases the symptoms returned in about five days after they were put back into this pasture, or on the 10th of March. They persisted and were plainly evident until March the 23d.

Two steers developed like symptoms on a pasture of timothy, clover and blue grass two miles from Mr. Arnold's ranch.

Mr. Arnold has a large flock of well-bred sheep which are kept on the part of his farm devoted to sheep raising. The ground on which they pasture is hilly and of a limestone soil. It is well set in blue grass and contains some wild grass. During the winter of 1900–1901 fifteen of the yearling lambs developed exactly the same symptoms as those shown by the cattle. The flock of sheep was driven through a gate into an adjoining pasture and in two weeks all were entirely well. At my request, on March 23d Mr. Arnold returned eight lambs to the pasture where the disease originally developed among the sheep to await results.

No post-mortem was held. I advised potassium bromide in ounce doses twice a day as a treatment for the cattle whenever the symptoms became alarming. Up to date I have not heard from the result of the treatment nor whether the lambs became diseased again.

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

A CASE OF DIPHTHERIA IN A CAT.

By ROSCOE R. BELL, D. V. S., Brooklyn, N. Y.

Authenticated cases of true diphtheria existing in the cat are seldom recorded outside of the laboratory. Having had the good fortune to meet the disease in this species, and having fully verified the diagnosis by microscopical and inoculation tests, I herewith present the facts in the case, without embellishment of any kind.

April 2, 1901, at about 9 A. M., a maltese male cat was brought to my office in the arms of a maid, who was accompanied by a young lady living in the vicinity. The lady stated that the animal had been a pet of the household for more than a year, and had been healthy until some three or four days previously, when it appeared sick, refusing food and water and sitting around in a listless manner. It appeared to get rapidly worse, developing a distressing cough, which caused it to gag and make efforts at vomiting. The impression of the family was that it had attempted to swallow a fish bone, which had become lodged in its throat, and it was for the purpose of having this foreign body removed that the cat was brought to me.

The animal was placed upon an operating table, the mouth opened, and a speculum used to examine the throat. This procedure caused such a fit of spasmodic coughing and gagging that shreds of white necrotic membrane were thrown out into the fauces, and the animal appeared as about to asphyxiate from choking. Suspecting a specific trouble the temperature was taken and found to be 105.5° F. I informed the lady that the animal displayed such grave symptoms of diphtheria that I would advise her to have the family physician visit my office and witness the post-mortem, when he could, if no other explanatory cause was found, make a culture of the exudate in the throat and determine the true nature of the disease. The physician, however, did not see fit to accept the invitation, and I proceeded to do so upon my own account. Securing a culture set from a convenient station [the Board of Health furnishes gratuitously these culture sets, and for the convenience of physicians deposits them at designated drug stores throughout

the city]. I destroyed the animal with chloroform and immediately opened the pharynx, where an ulcerated patch about the size of a dime was found, filled and surrounded by a considerable amount of exudate, together with adherent and detached pieces of the membrane. A thorough examination of the entire intestinal tract, as well as all other organs, was made, but no ocular lesion other than the pharyngeal ulceration could be detected. I made the culture in accordance with the directions, and took it to the office of the Board of Health.

The next day I received the following report:

DEPARTMENT OF HEALTH, CITY OF NEW YORK,
S. W. COR. 55TH ST. AND 6TH AVENUE, BOROUGH OF MANHATTAN,
NEW YORK, April 3d, 1901.

Dr. Roscoe R. Bell, D. V. S., Seventh Avenue and Union Street, Brooklyn:

DEAR SIR:—The culture taken on April 2d from a cat shows the presence of organisms which are morphologically identical with the Klebs-Loeffler bacilli. The culture tube has been sent down to the Research Laboratory, at the foot of East Sixteenth Street, in order to have the bacilli tested for virulence. When the report of the same is received we will forward it to you. Respectfully,

LE ROY W. HUBBARD, M. D.,
Medical Inspector.

On the 17th the report from the Research Laboratory was received, of which the following is a copy:

DEPARTMENT OF HEALTH, CITY OF NEW YORK,
CENTRE, ELM, WHITE AND FRANKLIN STREETS,
BOROUGH OF MANHATTAN, NEW YORK, April 16, 1901.

Dear Doctor Bell:

The bacilli from the cat proved to be fully virulent and true diphtheria bacilli. I should consider it a great favor if you would tell me anything you can about the sickness of the cat and the throat conditions, and where the cat obtained it. This is the only case that I have been able to get the bacilli from. Very sincerely, WM. H. PARK,
Research Laboratory, foot East 16th St., New York City.

I. CHOKE IN A HORSE DUE TO PARTIALLY MASTICATED APPLE—INJURY TO THE ŒSOPHAGUS IN PASSING THE PROBANG—FATAL INHALATION PNEUMONIA FROM ATTEMPTED DRENCHING WHILE CHOKED—REMARKS ON THE HANDLING OF CHOKE.

By W. L. WILLIAMS, Professor of Surgery, New York State Veterinary College, Ithaca, N. Y.

Patient, an aged bay mare of ordinary breeding, was presented at the college clinic at 3 P. M., Jan. 5, 1901, with the history that while eating apples at about noon she snapped at the owner while passing near, the sudden movement being immed-

iately followed by symptoms of choking. In an effort to relieve the choke the owner attempted to force the patient to swallow water by means of drenching with a bottle.

The obstruction being firm all attempts at deglutition were necessarily ineffective and the liquid with chance pieces of solids must return to the pharynx to be expelled through the nose or mouth or be inhaled into the lungs. When presented, the animal seemed much distressed, the general expression was one of anxiety, the respiration was hurried and shallow, the pulse weak and rapid. An effort was made to pass an ordinary leather probang, while the animal was standing (secured in stocks), but it met with firm obstruction at the anterior part of the thorax, which with the resistance of the animal rendered the operation impracticable and unsafe.

She was then placed upon the operating table with intent to anæsthetize, but when placed in lateral decubitis, water was seen to run from the nostrils, and surmising that the œsophagus was filled with liquid anæsthesia was discarded for fear of inhalation of regurgitated œsophageal contents.

Opening the mouth widely with the incisor-tooth speculum, the probang was again passed down to the obstruction and by gentle pressure the obstacle gave way and finally was pushed into the stomach. The animal was returned to the stall and muzzled. There was a marked absence of the improvement which should be noted after relief from choking, the expression was still haggard, the respiration shallow, rapid and painful.

Jan. 6. Condition unchanged. Refused water in the morning, drank about two liters in the evening.

Jan. 7. Condition worse; drank a little water; breath very fœtid; pulse imperceptible; respiration rapid and shallow; temperature, 103.7° F. Inhalation pneumonia feared; but an examination of the chest revealed no marked abnormal sounds. Sp. æth. nit. administered per anum.

Jan. 8. Fœtor of breath greatly increased; dark red nasal discharge; patient drank eight liters water; no appetite for food. Tracheotomy was performed, and the trachea and bronchi flushed with normal salt solution, to which hydrogen peroxide was added. The patient died early in the evening.

Jan. 9. Autopsy revealed: 1. A laceration in the œsophageal mucosa in the anterior mediastinal region, beginning approximately at the point of obstruction and extending toward the stomach a distance of 20 cm. The œsophageal tube was

not perforated and the lesion not necessarily serious. 2. A considerable amount of a dark-red serous exudate in the pleural cavity. 3. Diffuse broncho-pneumonia. 4. In some of the deeper-seated central bronchi small bits of apple skin. 5. The stomach contained large pieces of apple, but no entire fruit.

General Observations.—The case is illustrative in many ways.

It is unusual to injure the œsophagus in pushing an apple onwards with the probang with ordinary care. In this instance, however, it appears that the apple had been partly crushed when the patient snapped at the owner and unintentionally swallowed the broken but unmasticated fruit. The apples being unsalable culls were hard, and probably the laceration was caused by a sharp projection of the apple core. It emphasizes the possible dangers in using the probang, even in cases apparently well adapted to this form of treatment.

More important is the teaching in reference to the use of fluids during choke whether given by force as a drench to relieve the choke or taken voluntarily by the animal. In either way there is a constant danger of inhalation pneumonia, and we have repeatedly observed the fatal effects of this "water cure" so highly recommended by influential authors. *We regard such use of liquids in choking as highly dangerous and wholly unwarranted.*

That liquids may be used safely and advantageously in some cases of choke and under proper technique we have no doubt. In cases of choke due to the impaction of dry food, like oats or hay in the cervical region, the insertion of a hypodermic syringe needle into the lower or central part of the bolus and the injection into the mass of warm soda solution would doubtless cause a breaking up and passing onward of the dry mass.

We could also safely try the forcing of water into the œsophagus *per os* if first the precaution be taken to perform tracheotomy accompanied by proper care, but its application is of doubtful value. With a hollow probang a small tube could be pushed through it and water forced through this against the obstruction, any detachable pieces flowing back through the probang. Or by laying the œsophagus bare, grasping and compressing it against the probang to prevent the return of fluid along the outside, water could be forced through it under pressure and foreign bodies forced onward by hydraulic pressure, which would be gentler, and by dilating the œsophagus, possibly better in rare cases than direct pressure by the probang.

Not alone in our judgment should liquids not be forced into the pharynx nor the patient be permitted to attempt swallowing them voluntarily while choked, but the practice followed at times of causing the animal to attempt to swallow liquids immediately after the passage of the probang or the withdrawal of a foreign body from the pharynx should not be countenanced. It is given frequently as a test to determine that the œsophagus is open. We have strangled animals fatally in this way after the choke had been properly relieved.

The case further illustrates the value of Möller's observations that a large percentage of chokes become spontaneously relieved if let alone, even after a duration of three or four days. We observed one case of spontaneous relief in case of obstruction, believed to be due to impacted hay, after the duration of six days. In this case we repeatedly tried to pass the probang without result, even under complete anæsthesia.

A NUMBER OF INTERESTING CASES FROM ILLINOIS.*

By C. E. HOLLINGSWORTH, La Salle, Ill.

I will bring before you to-day a brief history of a few cases that are, or may be seen in any every-day practice. It is our humble opinion that more real benefit is to be derived from such reports than if writing about cases that are seen but once in a lifetime, if at all, and thus are of very little practical value to the majority of us. You will all agree with me when I state that it is practical information that we want most—good hard practical facts, right to the point—not long drawn out fine-spun theories. Nor do I think it is to the best interests of the society to bring before its members a protracted account of many marvelous cures with not a single failure. It is true that occasionally something very unusual occurs with all of us, and, perhaps, to our surprise. After it is all over, we wonder how it happened. If a sober second thought shows it to be worthy of consideration, or proves to us that it will be of value to our colleagues, let us report it. If, on the other hand, there is something in it that we cannot fathom, by all means bring it before the association, for others may be able to enlighten us. Frequently there is more to be learned from a failure than a success, either in studying over the case ourselves, or in seeking the advice of our brothers in the profession, some of whom may have had more experience in that particular line than ourselves.

* Read before Illinois State Veterinary Medical Association, Feb. 12, 1901.

Let us tell of our failures as well as of our successes—the bad with the good, the bitter with the sweet. Because in honestly confessing our inabilities (and we all have them), and earnestly seeking for advice and enlightenment, there is much to be gained if we receive that information in the proper spirit, for none of us are so wise that others can teach us nothing.

Ruptured Uterus in a Jersey Heifer.

In June, 1900, I was called to attend a Jersey heifer of medium size, and in fair condition, to deliver her of a calf. She was in the pasture near the house, overnight, and next morning was found unable to relieve herself. I made an examination and found a very large calf, with the hocks presented, the feet being forward. I used the repeller, got both feet in proper position, when it was soon delivered, much traction being necessary, but requiring very little time.

While removing the fœtal membranes, I found a rupture in the superior wall of the uterus, just anterior to the os, about four inches in length. Finished the task by injecting antiseptic solution, taking care that none should enter the abdominal cavity. Advised owner of the discovery ; left directions to inject antiseptic solution twice daily. Returned on second day, and found some fever present, but very little discharge from uterus. Left a few doses of febrifuge medicine, and continued the injections three or four days longer, when treatment was discontinued.

Degenerated Liver a Cause of Acute Indigestion.

In November, 1900, I was called to a case in Peru. Found a team horse, 12 or 14 years of age, in fair working condition, and weighing about 1300 lbs., that was used for coal hauling. It was showing symptoms of an aggravated case of acute indigestion, with inflammatory tendencies. It had been sick for several hours, and the usual doses of nitre, etc., had been given, but without any benefit. Not much tympanites present, but was insufficient peristaltic action, so gave a dose of barium chloride at once. As I had to go ten miles farther to another case, I left some sedative and anodyne medicine to be given. Returning at 6 P. M., I found patient much improved, though still suffering some from pain. It was raining hard, and cold, and I didn't want the horse taken to my hospital, a mile away, so left fluid extract gelsemium, with directions to watch the horse until midnight, giving the medicine every hour, or two hours, according to the pains.

Next morning here came the owner leading the horse, he

having sat up all night watching it. I found a weak rapid pulse, head hanging and ears drooping, cold at tips, and otherwise showing symptoms of general depression. No peristalsis. Prognosis was unfavorable. The pulse gradually became weaker, other symptoms of early dissolution more pronounced, and he passed away calmly and peacefully at 1 P. M.

Post-mortem revealed slight inflammation of the intestines, but the lower half of right lobe of liver was badly inflamed, broken down, capsule destroyed, and in almost a gangrenous condition.

Compound Comminuted Fracture of Scapula in a Dog.

In December, 1900, was called to see a young dog, about full grown, and of questionable parentage, which had that morning been savagely attacked by a bull dog, and crippled in right shoulder. The owners desired to have the dog treated, not on account of its intrinsic value, but because it belonged to their little boy. I found a compound fracture of the scapula. In fact, it was literally shattered. I took a piece of stout unbleached muslin, cut it in a triangular shape, to correspond with the form of the scapula, and had strong muslin strings sewed to each corner, long enough to reach around the dog's body. Near the apex I made an opening large enough to allow the passage of the foot and leg, so as to fit snugly above the elbow. I then mixed some plaster of paris, covered this piece of muslin all over except around the opening at the apex, and put a second piece of muslin of corresponding shape on top of the plaster of paris, thus forming two coats of muslin, with the plaster between. I now passed the foot and leg through the opening at the apex, and fitted the cast firmly to the outer surface of the scapula, and tied it there by means of the aforementioned strings, tying them around the body, neck, and criss-cross between the fore legs. In this way I soon had a hard, perfectly fitting cast of the shoulder, which held the broken pieces in apposition until union took place. I left directions for this to be worn for a month, but learned afterwards it was removed in about two weeks. Was still some lameness at the end of three weeks, but in a month was practically well.

Mouldy Corn a Cause of Death.

In January, 1901, was called to see a shaft mule belonging to a coal company. No special symptoms of disease were present; appeared tired, languid, and worn-out more than sick, although it was in fair physical condition. Was told it had never done much hard work for them, as it always seemed to

tire so easily. For three or four days prior to my visit it had worked hard, the same as the other mules, owing to a shortage caused by the death of one of its fellows a few days before. I always remember the advice of Josh Billings in regard to how to approach the genus asinus, and more especially the coal shaft variety; so sometimes I don't give them a real scientific examination. Acting upon the supposition that the few hard days' work had exhausted him (there being no special symptoms to the contrary), I gave him a full dose of fluid extract of nux vomica, and left. All the afternoon he improved, and seemed to be getting all right again; so I heard nothing more until next morning, when they called me to come and see him again. I arrived just in time to see him kick for the last time. (This phrase has far more meaning when applied to a shaft mule.)

For some time the mules had been fed on shredded corn fodder, baled, instead of hay. The moisture in the pit soon caused it to heat and consequently mould, rendering it unfit for food. When asked to what I attributed the peculiar death, I replied that from the mule's history there was some internal lesion of long standing that could not be detected from the outside. Also, that the mouldy corn fodder was in part to blame.

The post-mortem revealed pleural adhesions on the right side, and the left kidney was completely destroyed, functionally, it being simply a mass of broken down, pulpy, kidney tissue.

The mule that had died a few days previous to this one was all right when fed at night, and dead in the morning. I had no opportunity of holding a post-mortem on it.

An immediate change of feed was ordered, and there has been no more sick mules.

DERMOID CYSTS.

By C. J. MULVEY, D. V. S., Mooers, N. Y.

The case I describe was brought to my office some months ago, and as I have never heard of or seen any such described or reported have intended giving an account of it, but it has passed until now, and I trust it may be of interest.

There was a small enlargement of irregular shape, but "V" shaped as near as could be described, situated on the left side of the neck a few inches anterior to that occupied by the collar. On examination it was movable, just beneath the skin, and seemed like those growths or accumulations often found similar to this, but the absence of any cicatrix, the statement of the owner that it had not increased in size since he owned her

(about 18 months), and his urgent request for its removal, and the results, follow in a short succession of time.

On cutting down upon the contents I found them to be contained in two small sacs or envelopes, communicating with each other, and on cutting through this covering found each to contain an elongated roll of hair, perfectly white, each roll about the length of three inches by one inch in diameter. There was also a small quantity of fluid, among which floated white granular particles, also bleached in appearance, but did not have the appearance of pigment or broken down structures.

I removed the sacs and contents and the parts readily healed, and the last time I saw the owner and patient there was nothing to show to a casual observer any sign of there having been any difference in either side of the neck.

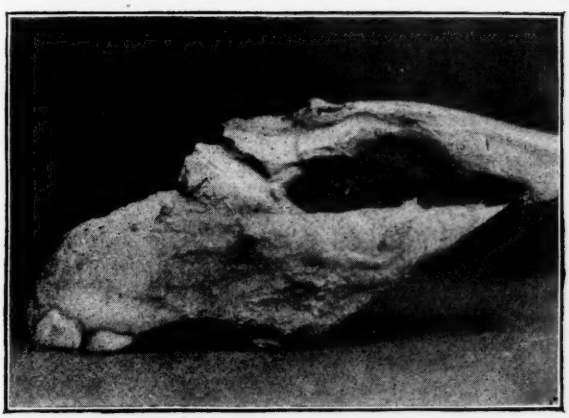
The patient was a small bay pony, without any white markings, and coming four years old.

I could not learn any history as to this having been congenital, as she had been obtained of a trader and her birthplace unknown.

COMPLETE PERFORATION OF NASAL SEPTUM BY GLANDERS.

By J. P. FOSTER, V. S., State Veterinarian, Selby, South Dakota.

I send you under separate cover a photo of a specimen, taken from a horse, or rather a two-year-old colt, I destroyed, that was affected with glanders. You will notice the complete perforation of the nasal septum, caused by the ulceration. Although all the other symptoms of glanders were present in this colt, as well as in nine other head on the same farm, I applied the mallein test to the entire lot, and this colt's temperature rose from a preliminary temperature of about 100.2° to 106.5°, and hovered around that point for nearly twenty-four hours.



PARTURIENT PARESIS—SCHMIDT TREATMENT.

By W. L. WEST, V. S., Belfast, Me.

January 13, 1901, at 8 o'clock A. M., I was called to see a two-year-old native cow, presenting the following symptoms: Decubitus; head turned persistently to left side, moaning, temperature 99° F., pulse 50, respiration 20; not comatose, and with a history of having had an easy parturition twenty-four hours previously. Diagnosis, parturient apoplexy or paresis. Prognosis unfavorable. Treatment—Gave per orem magnesium sulphate, 1 lb.; gamboge, ℥ i; aqua, Oji, which she swallowed easily and naturally; milked her and cleansed the udder thoroughly with 1 to 20 creolin solution, and infused with constant massage, potassium iodide 10, aqua 1 litre, at 107° F. Propped patient on sternum and left instructions to keep patient covered and massage udder every hour.

Jan. 13, 5 P. M.—Cow about the same, moans constantly, gave another infusion of potassium iodide, 5, aqua, half a litre, at 107° F.; drew the urine.

Jan. 14, 8 A. M.—Cow seems brighter, moans less, still in decubitus, drew urine, infused potassium iodide, 10, aqua, 1 litre, at 107° F., with massage.

Jan. 14, 5 P. M.—Cow shows no change except the bowels have moved freely.

Jan. 15, 8 A.M.—Cow about the same, drew urine, gave copious enema of salt solution, gave fluid extract of nux vomica.

Jan. 15, 5 P. M.—No perceptible change, except the cow grows weaker; gave another dose of fluid extract of nux vomica.

Jan. 16, 8 A. M.—Cow very weak, pulse 70, temperature 103° F.; advised the owner to destroy her, which he did.

SERIOUS CONSEQUENCES OF CRUELTY TO HORSES.

By FRANCIS ABELE, V. S. Quincy, Mass.

Horse, driven by a foreigner for a gentleman's estate, had been stopped on the street by agents of the Society for the Prevention of Cruelty to Animals. Horse was hanging back, crosswise in shafts, as far as he could. The driver in trying to urge him used his boots. Horse's belly was very dependent from forelegs back. Some one had diagnosed a rupture. Diagnosed peritonitis probably due to kicks. Applied hot blankets bandaged around abdomen for external treatment and potassium iodide for internal. The horse was then turned out. Made good recovery. At same farm was called to horse that had three tines of

pitchfork run into his ribs to stop him from running out doors. With treatment no bad result followed. I might add, new help was secured on that farm.

STOMACH ENGORGEMENT IN A SOW.

By FRANCIS ABELE, V. S., Quincy, Mass.

Well bred sow, mother of eleven little pigs a week or two old. Foreman knew she was past help, but did not want her to die without treatment. Sow was down on side, delirious, kicked spasmodically with all four feet as if struggling to get up. From her plump condition decided that brain symptoms were due to engorged stomach. Gave aloin and oil by mouth, glycerine and water per rectum, and rubbed a stimulating liniment on her back, rolled her against side of box to get her feet under her. Next day she was perfectly well.

DEPARTMENT OF SURGERY.

By L. A. AND E. MERILLAT,
2127 Indiana Avenue, Chicago, Ill.

THOROCENTESIS.

Thorocentesis.—Tapping the thorax is a very common operation in veterinary practice, and is used as a curative and diagnostic measure; its most common indications are:

1. Hydrothorax.
2. Pleurisy with effusions.
3. Hemothorax.
4. Morbid growths on pleura.
5. Hydatids of pleura.

1. *Hydrothorax* as observed in domestic animals is generally a sequel of other diseases. The pathological anatomy is marked by a change in the pleura and pleural cavity. The pleura becomes soft, smooth and spongy by its contact with the exudate. The cavity contains a greenish, or reddish yellowish fluid, which generally is free from fibrin. The intercostal muscles are bulged outward; the diaphragm loses its convexity; the lungs become flattened, leathery, airless and bloodless; their specific gravity is greater than one. The compressed lung may become the seat of sclerosis, necrosis or some other degenerative change. Pleuritic adhesions are often found, but their presence may not be of recent origin.

Ætiology.—As has already been mentioned, hydrothorax is

always a secondary condition, but it does not always result from the effect of inflammation. It may be accompanied by anasarca and ascites, or may exist alone, but never exists as the only malady. We may mention in a general way that it is liable to arise under the following circumstances:

1. As a sequel of acute pleurisy.
2. From "quiet" pleurisy.
3. When the whole circulation is impeded, and the venous pressure is increased, *e. g.*:
   (*a*) Mitral or tricuspid insufficiency.
   (*b*) Diseases of the orifice of mitral or tricuspid valve.
4. When venous stasis is due to local causes, viz.:
   (*a*) Localized swellings or tumors over veins.
   (*b*) Thrombosis.
5. When renal diseases lessen the elimination of the watery portion of the blood.
6. When the parietal and visceral lymphatic glands are enlarged and indurated; and when the functional activity of the stomata of the pleura is impaired by inflammation or otherwise.
7. When the quality of the blood is changed by disease; or the circulation impeded by cold or other general influences which favor exudation of serum from the blood vessels.

Diagnosis.—In the horse hydrothorax is always bilateral, while in other animals it may be unilateral. The diagnosis is generally easy unless the fluid is confined to a portion of the thorax by pleuritic adhesions. Dyspnœa is the most important symptom. By auscultation a dull section is found extending along the lower portion of the thorax (*longitudinally*) and terminating abruptly above; the line of demarcation between the portion filled with fluid and the empty part superiorly will vary as the position of the patient. Sometimes the recognition of other dropsical conditions is very suggestive. When the symptoms point to hydrothorax the trocar should be used to verify the diagnosis. The fluid, if entirely non-inflammatory, appears as a greenish or reddish transparent fluid; it does not contain clots, nor coagulate in the vessel. It contains a little albumen, and its specific gravity varies from 1005 to 1010.

The presence of corpuscular precipitates; a tendency to coagulate; or any turpidity of the effusion, is suggestive of inflammation. When it is streaked with blood, the condition is an indication of venous stasis or arterial degeneration. The cavity may contain pus, cretified pus, with or without secondary

abscesses. The pus finding its passage in the direction of least resistance, pierces through the lung or thoracic wall, forming pulmonary or costal fistulæ. Chyle is sometimes found in the thoracic cavity, mixed with the effusion (*chylothorax*); this, however, is always accompanied by intra-thoracic growths, or results from pathological alterations caused by morbid growths.

Treatment.—Hydrothorax is not formidable in itself; in many events it is observed in the last few days of the animal's life. The treatment should be dietetic, medicative and surgical. The patient must be fed upon dry food and given but a small quantity of fluids. The medication should consist of diuretics, hydragogue purgatives and tonics. Surgical interference should only be used when the fluid rises to such an extent as to harass the breathing, in such an event it must be removed by *thorocentesis*. The operation is a simple one, and with the proper surgical cleanliness there is no danger of unfavorable sequelæ following it as a result of infection.

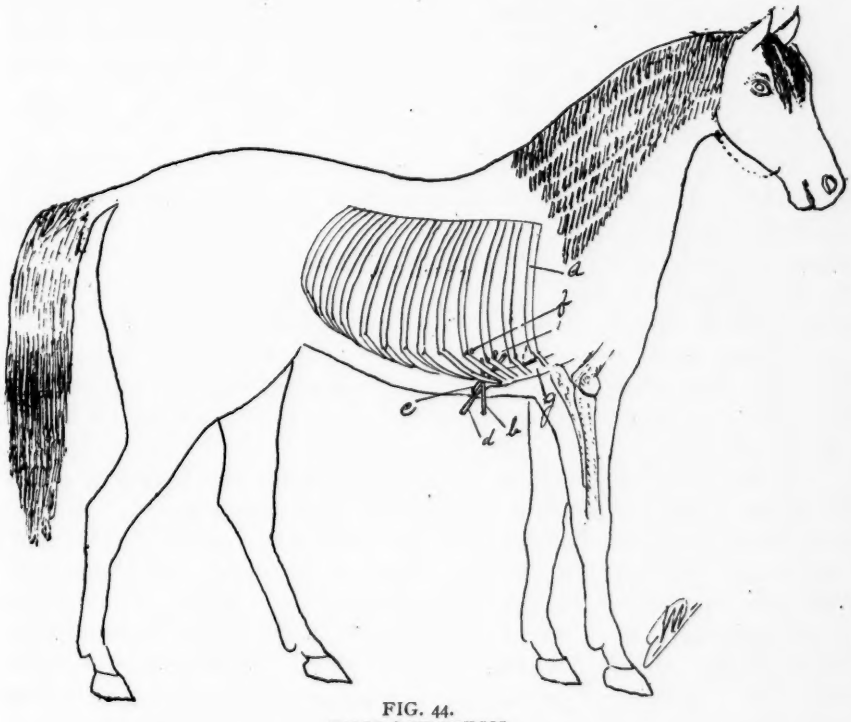


FIG. 44.
THOROCENTESIS.

a, sixth rib; *b*, improper direction of trocar; *c*, ensiform cartilage; *d*, proper direction of trocar; *e* and *f*, point selected by some operators; *g*, sternum.

There are several sites selected for this operation: Moller recommends a point between the xyphoid cartilage and the costal cartilage (*Fig. 44, b*). Williams (W. L.) selects a point in the sixth intercostal space on the right side, and in the seventh on the left side (*Fig. 44, b*). (See *Pfeiffer–Williams' Surgical Operations.*)

The most important thing to avoid in the procedure is the admission of air into the thorax (*pneumothorax*); this can be prevented by placing the finger over the end of the canula during inspiration, by using Billroth's trocar, or by attaching a rubber tube to the end of the canula and immerse the distal end of the tube in a bucket containing water.

Before inserting the trocar into the thorax the site of puncture must be scrubbed with soap and hot water, and washed with a strong solution of bichloride of mercury; the hair is then parted by the use of vaseline and the trocar inserted into the wall of the thorax at the part in the point selected, and the perforator removed from the canula. If the flow is arrested by the accumulation of fibrinous material, cretified pus, or clots of any kind in the canula, the perforator must be introduced into it to remove such obstructions. Before removing the canula the perforator should be introduced into it to prevent drawing foreign or septic material into the wound.

Paracentesis, without some other treatment, is not a cure for hydrothorax, but a procedure that should not be used promiscuously; the removal of a large quantity of fluid has a debilitating effect; therefore, the rational treatment of such cases is to encourage absorption, and only perform thorocentesis when the accumulation of fluid interferes with respiration. The treatment that we would recommend in addition to what has already been mentioned is the application of a good cantharides blister (1-16) and the removal of fluids by puncturing only when necessary.

2. *Pleurisy with Effusions.*—We consider two forms of pleurisy that terminate in hydrothorax; the first form is sthenic, and the second is asthenic. The first may be considered the same as acute pleurisy, which, when neglected, terminates with effusion. It is characterized by high temperature, pain, dyspnœa, restlessness, short cough, ribs fixed, elbows turned out and forelegs are held apart. When the effusion begins to collect the temperature begins to lower gradually; pain becomes less intense; restlessness is diminished, but dyspnœa continues.

The second form is sometimes called "quiet pleurisy." It

begins mildly, and, in fact, is often unnoticed until the thorax is filled with fluid; pain, if any, is very slight; fever is very low and seldom noticed, even if the thermometer is used by the owner or attendant. The thorax, slowly filled by the effusion, accommodates itself to the condition, and but little inconvenience is experienced therefrom until the cavity is almost filled. When the effusion comes on slowly and gradually the patient may lie down, and if it be an animal that can have unilateral hydrothorax, it will lie upon the side affected to relieve the pressure upon the mediastinum. Most of these cases are brought to the veterinarian on account of dyspnœa following the slightest exercise and general debility, and upon making a careful physical examination the condition and symptoms presented point to asthenic pleurisy with effusion; this then can be verified by making a tentative puncture. The treatment in such cases is the same as already mentioned under hydrothorax.

3. *Hemothorax.*—Blood-stained effusions may result from simple pleurisy, but more commonly from tubercular, carcinomatous or some other like condition. Bloody effusions may come from wounds to the thorax or its viscera, or from within by the rupture of an aneurism, sanguineous cancer or a hematoma. Blood in the pleural cavity resulting from extravasation should be allowed to remain in it to be reabsorbed, but if this does not suffice it must be removed by tapping. If the effusion is ichorous it may require additional surgical interference. It should be remembered, however, that the thoracic cavity of the horse cannot be opened (*sic*); other animals in which the pleural sacs do not communicate the surgeon can resort to major operations of the thorax and its viscera.

4. *Morbid Growths of the Pleura.*—The pleura of domestic animals is not free from sarcomatous, carcinomatous, actinomycotic or tubercular invasions. Growths of the first two varieties are comparatively rare, but those of the second are more common. They may cause effusion by impeding circulation (*dropsy*); if septic material escape into the cavity it soon becomes putrid and causes septic infection. Blood may also escape from highly vascular formations. The diagnosis in such cases is impossible without a tentacular puncture, and the course of treatment adopted should be governed by the information gained therefrom.

5. *Hydatids of the Pleura.*—Hydatids of the pleura of domestic animals are not often diagnosed during life. When the

cysts are unbroken it is impossible to determine the condition that causes the disturbance observed, but when they rupture into the pleural cavity a puncture made tentatively, with a history of the case, may give rise to a chain of evidence that will lead to some definite conclusion.

KERATOCENTESIS.

There are certain conditions of the eye which can be successfully treated by tapping the anterior chamber, either to remove injurious bodies or material contained therein, or to reduce the pressure upon the cornea or walls of the anterior and posterior chamber of the eye. The removal of the aqueous humor is often followed with very good results, such as stimulating the functional activity of its secreting membrane (*Desemet's membrane*); encouraging the absorption of substances which cause opacity, haziness, cloudiness or loss of transparency of the cornea and anterior surface of the lens; and also preventing absorption of the cornea, which is always followed by escape of humors and complete destruction of sight.

Keratocentesis has its indications and contra-indications, *e. g.*, it can be used to a good advantage in aplastic iritis, but

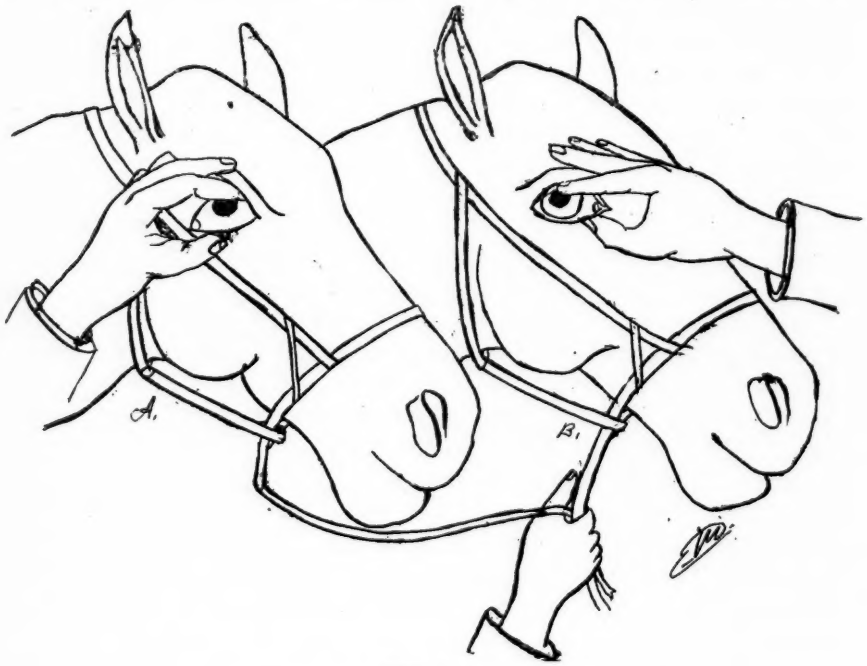


FIG. 45.
METHOD OF EXAMINING THE EYE.

should never be used in plastic iritis ; so with many other conditions. Before resorting to such surgical interference a proper diagnosis must always be made, and to accomplish this it is necessary to make a thorough examination of the eye.

Examination of a Horse's Eye.—The conjunctiva and external surface of the eyeball can be examined by parting the eyelids with the thumb and forefinger. (*Fig. 45.*) When standing in front of the horse, the right hand is used to examine the right eye (*Fig 45–B*), but when the examiner stands to the side of the horse's head, the right hand is used to examine the left eye and the left hand for the right eye (*Fig. 45–A*). The membrana nictitans is brought to view by pressure applied to the eyeball with the forefinger and thumb.

The conjunctiva of the eyelid can be thoroughly examined by catching the eyelashes with thumb and forefinger of one or both hands and inverting the eyelid over a lead pencil, thermometer case or some other object of that shape. If the eye or its appendages are very sensitive, a little cocaine may be injected into the eye between the ball and the lids before making the examination.

To examine the antro-internal part of the eye, the patient should be taken to a dark room or stall and the eye illuminated with a candle placed in front of it. A thorough examination necessitates the use of mydriatics, administered a few hours prior to the examination.

A normal eye will reflect images of the candle light ; one large and two small ones. The first large image of the light is observed in its normal position, and is reflected by the cornea ; the second is smaller, in an upright position as the first, and is reflected by the anterior part of the lens ; the third is a small inverted image of the flame reflected from the posterior part of the lens. When the eye is normal all the images are well defined ; but when either of them presents an indefinite outline it is an indication that there is some abnormal condition of the anterior part of the eye. When the first image presents an indefinite outline, the trouble is in the cornea ; when the second one is hazy or indefinite the lesion is in the aqueous humor or the anterior part of the lens ; and when the third is indistinct it is in the lens. (*Fig. 46.*)

The ophthalmoscope is an instrument that should be more generally used by veterinarians. The belief that it is an instrument difficult to use to a good advantage is erroneous ; an hour's instruction will enable any veterinarian to acquire good com-

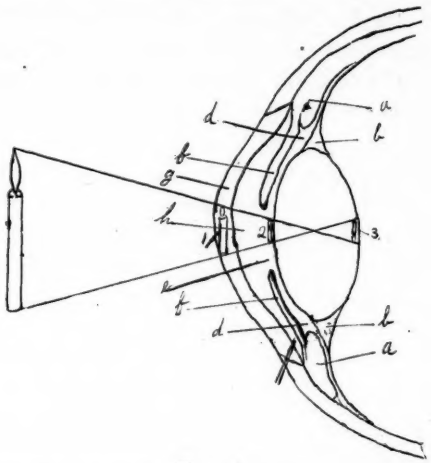


FIG. 46.
TRANSVERSE SECTION OF THE EYE; LOCATION OF IMAGES REFLECTED.
a, ciliary muscle; *b*, canal of Petit; *c*, lens; *d*, posterior chamber; *e*, pupil; *f*, iris; *g*, cornea; *h*, anterior chamber; 1, 2, 3, images of flame.

mand of its technique; and moderate practice with strict adherance to important rules will soon widen the field of its employment. The veterinarian that wishes to become proficient in the use of the ophthalmoscope must learn to detect abnormalities that need attention and class them into as few groups as possible. The novice should not expect to succeed in all cases, especially when the conditions are such as to try the patience of or even baffle an expert. He should commence with easy cases and learn to diagnose these with few failures, which will gradually make him more proficient.

It is not necessary to have an elaborate and costly instrument designed for a great diversity of ophthalmoscopic work, even though such an instrument is naturally preferred. A very good improvised ophthalmoscope can be made with a piece of looking-glass having a small round hole scratched in its silvering; a small round pocket mirror fixed in this manner is a very good improvisation. "The mirror is the essential part (of an ophthalmoscope), everything else being accessory."—(*Van Mater's Veterinary Ophthalmology.*)

The object in encouraging its use is to enable the veterinary oculist to increase his percentage of good diagnoses. Many of the clients of the present veterinarian are men that have a good knowledge of biology, zoology, anatomy and physiology, and will not "stand" for the old-time veterinary diagnoses, or those made "on the run"; each one must be accompanied by a logical chain of evidence leading to a plausible cause of the condition

in question, and followed by well-grounded prognosis. A surgeon's ability to acquire a reputation depends upon the care exercised in discriminating when to and when not to operate, and his proficiency in determining indications and contra-indications.

The success following this operation (*tapping the cornea*) will depend upon the operator's ability to determine its indication. Any condition that will cause intraocular pressure which is not accompanied by plastic exudates is an indication for paracentesis, and in this consideration of the operation only a few of the most common conditions that will produce such a disturbance, in addition to a few conditions that incidentally occur in connection with the diseases of the anterior part of the eye which may be benefited by such interference, will be mentioned, with a brief review of each, in the order of their importance, viz.:

1. Staphyloma.
2. Descemitis.
3. Diseases of the iris.
   (*a*) Aplastic iritis.
   (*b*) Parenchymatous.
4. Anomalies of anterior chamber:
   (*a*) Hydrophthalmos.
   (*b*) Intraocular tumors.
   (*c*) Hypopyon.
   (*d*) Aplastic irido-cyclitis.
5. Parasites in the anterior part of the eye:
   (*a*) Filaria papillosa.
   (*b*) Cysticercus fistularis.
   (*c*) Pentastoma tænioides.
   (*d*) Filaria oculi.

(6.) Diseases of cornea:
   (*a*) Pannus.
   (*b*) Ulceration of cornea.
   (*c*) Suppurative keratitis.
   (*d*) Superficial "
   (*e*) Vesicular "
   (*f*) Parenchymatous keratitis.

(*To be continued.*)

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SURGICAL ITEMS.

Chloretone is a local anæsthetic that is receiving some attention in human surgery, and those that have used it claim for it an absence of all the unpleasant and dangerous symptoms common to cocaine and eucaine. The local anæsthetic effect is sure and safe in result.—(*E. M.*)

In the *Journal of the American Medical Association*, April 13, 1901, appears a very interesting article, by J. Rilus Eastman, of Indianapolis, Ind., on the subject of permanent catheterization. It contains some very important reports of cases subjected to retention of catheter for a period varying from twelve to sixty-five days. The author states that "The practice of permanent catheterization fell into disrepute before the advent of clean surgery." * * * That, "inflammation of the bladder may occur during retention of catheter as a direct extension of urethritis, or from decomposition of urine which always moistens the intravesical portion of the catheter." To prevent cystitis the bladder is irrigated twice daily with a solution of boric acid (4 per cent.); and, to prevent urethritis a 1 to 5000 solution of potassium permanganate is injected between the catheter and the mucous membrane of the urethra; this is continued until the discharges of the urethral membrane cease. In two cases of lithotomy, no attention was paid to irrigation of the bladder and mucous membrane of the urethra, and no cystitis or urethritis followed. The following deductions can be made from the writer's observations: 1. That the dangers following retention of catheter have been overestimated. 2. That large catheters should be used in preference to small ones. 3. That large catheters are retained more easily than small ones, and that they do not irritate the mucous membrane as small ones. 5. That after the catheter has been in contact with the mucous membrane of the urethra for a time it develops a tolerance for the instrument. —(*E. M.*)

Susceptibility Increased by Individual Prophylaxis.—As a matter of common observation, pus infection seldom occurs when wounds are located where cleanliness is not possible. Wounds upon the hands of bricklayers, stone masons and mechanics seldom suppurate, while those of lawyers, doctors and ministers' hands are very susceptible to pus infection, and often open an avenue to general infection. Localized abscesses, septicæmia and pyæmia, together with other infectious diseases, are more common in well-bred animals of the same species than among those that have been subjected to the common law

of evolution—"*The survival of the fittest.*" Well-bred horses and cattle surrounded with all the comforts that can be given to them by good, clean, hygienic stables, and always protected against the inclemency of the weather need more nursing and veterinary attention than those that have no comforts and receive less care. The same thing is noticed in animals of different species with different environment, *e. g.*, wounds of the hog are seldom followed by the formation of pus or abscesses.

The effect of dirt and filth may be considered by the veterinarian as twofold: 1. In sanitary science, it is considered as being an element of bad hygiene. 2. In surgical and infectious diseases, as being a conveyance of infection to wounds or the economy. Pus cocci are generally incorporated in dirt and filth; suppurating conditions are usually enzootic; and the association of the living animal with these organisms and such conditions, has a tendency to increase the resisting capacity of the economy exposed. This capacity is the same as any other endurance; it does not differ from the muscular capacity or lung capacity of an animal, and is developed by exposure to infection, and diminished by protection against infection. We often notice the wounds of horses that are kept in filthy, ill-ventilated stables yield to the most rudimentary cleaning, while other wounds resulting from the same cause, in horses that are always well groomed, kept in good stables, thoroughly cleaned, well ventilated, and comfortably heated, are treated by cleanings that are far more thorough, yield very inefficiently.

This illustrates the many failures in antiseptic treatment of wounds that are often hurled at its advocates by those that can not understand the importance of clean surgery. The veterinarian that is successful in treating neglected stock is often very unsuccessful in treating stock owned by fanciers, and a useless party on stock farms, stocked with well-bred animals, simply because he is inclined to think that anything is good enough for a horse, ox or dog.

The progress in the stock industry of the United States encourages better breeding, better feeding, better care and environments, and as a consequence of this improvement, the demand is better veterinary attention and surgical methods.—(*E. M.*)

DURING the year 1900 there were reported to the Cattle Commission of Massachusetts 849 cases of glanders, of which 699 were killed and 150 released. This is largely in excess of any previous year.

EXTRACTS FROM EXCHANGES.

GERMAN REVIEW.

By ADOLPH EICHHORN, D.V.S., Milwaukee, Wis.

THE FORMATION OF LYMPH [*G. Moussu*].—Older physiologists explained the lymph production as a filtration under the influence of the blood pressure. This hypothesis was already opposed by Heidenhein, who considered the lymph as a secretion of the capillary endothelium. Moussu made a careful study of the influence of the blood pressure on the lymph circulation. He produced a lymph fistula in the region of the neck on a horse, so as to establish, first, the amount of the normal production, and then the increase or decrease, as the case may be. He elevated and reduced the blood pressure of the head, by severing or stimulating the cervical cord of the sympatheticus, and came to the following conclusions: (1) The blood pressure plays a part in the formation of lymph. (2) A local reduction of the blood pressure and a slight dilatation of the vessels, reduce the production of lymph, and the lymph current. (3) A local increase of the blood pressure, and contraction of the vessels, increases the quantity of lymph, and the lymph current. And finally, to prove the effect of the tissues on the formation of lymph, the author proved that while the horse was taking up food, and during the process of mastication, salivation and deglutition, the quantity of lymph was increased 5-10 and often 15 times the amount as when at rest. This increase could not be traced back to the arterial pressure, as when this is raised in the carotid, it falls in the smaller arteries of the muscles (muscles of mastication). Therefore he proved that the total activity of the tissues produces a considerable amount of lymph. The question arises now, how much of this is to be credited to the activity of the muscles, and how much to the salivary glands? Moussu decided on this question, by producing a salivary secretion, when the muscles are in a state of rest. For this purpose, he injected in a horse pilocarpin, and in a cow he stimulated the secretory nerve of the parotid. In spite of the considerable activity of the glands, the lymph current did not show any marked change; therefore, the activity of the muscles play the most important part in the formation of lymph.—(*Soc. Biol.*)

THE TREATMENT OF WOUNDS OF THE HOCK JOINT [*A. Hink*].—Traumatic wounds of the hock joint, with synovial

discharge, as known, are prognostically in many cases unfavorable. The quicker the closure of the wound is accomplished, the better the success in the treatment. For the closing of the wound different agents are employed. The application of a useful compress bandage is at this point very difficult. After testing most of the recommended agents, he obtained the best success with the iodoform paste (iodof. 5.0, mucilage, gum arabic and glycerine āā 10.0, bol. alb. 20.0.) The wound and the neighboring parts are thoroughly cleansed and disinfected; then the paste is applied in a thick layer, covered by a layer of cotton. It forms a firm plaster, and all that is necessary to be done is to apply every two days a little more paste and some fresh cotton. The plaster is to remain until it falls off by itself, which generally does not occur before the closure of the wound. Naturally, the patient has to be tied up in a way not to be able to get at the wound with the mouth.—(*Deutsch. Thier. Wochensch.*)

TETANUS IN CATTLE [*A. Hink*].—While most of the cases of tetanus in cattle can be traced to some traumatism of the uterus (tetanus puerperalis), the author observed in a 1½ year-old heifer tetanus without being able to see or prove any external injury. The disease commenced at the muscles of mastication, and gradually spread, developing in a way that the tail was curved very much to one side, and finally the muscles of the leg became very much affected. The patient about eight days before the first manifestation of the disease appeared, was on a pasture which contained thorny bushes, and by picking the grass in all probability the buccal or pharangeal mucous membrane was injured, through which the tetanus bacilli gained entrance. The animal recovered; sixteen days after the beginning of the disease a slight improvement of the spasmodic condition was noticeable, she was able to lie down, and beside the gruel it received during the disease, kicked for some food. But before the patient could be discharged as cured, four more weeks elapsed. The therapeutics consisted chiefly of rectal injections of a solution of chloral hydrate, frequent offerings of nutritive drinks, dark stall and the most possible quietude. The temperature all through the disease remained normal; the pulse was 64 to 70.—(*Deutsch. Thier. Wochenschr.*)

A NEW METHOD OF EXAMINING BLOOD [*Dr. L. Baruchello*].—The author performed a long line of experiments for the purpose of studying the microbes living in the blood. He made use of a method which may be of interest to all practitioners, especially to those living in the country, and who wish to send

suspicious blood to a laboratory of a neighboring city. To examine the blood of a living animal, the author opens the jugular vein, and collects the blood in a sterilized bottle, having a flat bottom. The bottle is then carefully closed, and the blood is allowed to coagulate in a slightly elevated temperature ; after this the serum is poured off, and the blood clots placed in alcohol. On the following day they are cut with a knife into small squares, and placed back in the alcohol. Before one can proceed with the microscopical examination, these squares are passed first through alcohol, and then through alcohol and ether. This is followed by an enclosure into collodion, after which they are cut with the microtome, and stained by a suitable method. In spite of the delicacy of the cuts, they possess a strong cohesion, and do not suffer in any way by the staining. Under the microscope the red blood corpuscles appear as regular mosaics; also the white blood corpuscles are very slightly changed. To prevent the blood clot from infection by foreign microbes a sterilized eprouvette is filled with blood, and closed immediately with cotton. After coagulation it is placed in a dish filled with alcohol, and the coagulum is expelled by shaking or breaking of the eprouvette. For examination of the blood of dead animals, this method will be found still simpler : A short while after death, a large blood vessel is opened, the coagulum taken out and placed in alcohol, which should be renewed two or three times. On the following day the coagulum can be cut in squares. This method as stated by Baruchello has the following advantages : (1) The coagulated blood cut in squares can be kept in alcohol for any length of time, whereby the examination can be made at any suitable time. (2) The entrance of foreign microbes can be easily prevented, which by the general method is not the case, where a drop of blood is taken on a coverglass by puncturing the skin, and this is left drying in the air. (3 The blood taken directly from a large blood-vessel is much more uniform in regard to the composition of its morphological elements than that obtained by puncturing the skin. (4) When the microbes in the circulation are not numerous they may escape the blood taken by a puncture, while they could not remain unnoticed in a number of sections. (5) This method is very simple, and does not require any special instruments.—(*Il Moderno Zooitaro.*)

DRS. JAMES L. ROBERTSON, W. J. Coates and H. D. Hanson, of New York, attended the banquet of the New England Alumni Association of the A. V. C., at Boston, April 19th.

FRENCH REVIEW.

PSEUDO-MENINGITIS DUE TO A PREVERTEBRAL ABSCESS OF THE NECK [*By Prof. Cadéac*].—Very unusual and interesting record of an animal which shortly after being bought has strangles, complicated with paresia of the facial muscles of both sides, more marked on the right than the left. Taken back by the dealer he is brought to Prof. Cadéac, when the affection makes rapid progress. He refuses food, stands immobile in his stall; constipation is hard, and resists even repeated purgatives. The walking is painful; there is paresia of the right lateral biped; there is photophobia, the pupil is contracted, the ears are stiff, the masseters also, the membrana nictitans covers the eye as soon as the hand is raised toward it. Is it lockjaw? The head can neither be raised nor lowered, the neck is stiff and the skin of the region very sensitive; the animal is very rebellious to any examination of the upper part of the neck, near the poll. A diagnosis is made of meningitis, nearly all the symptoms of which are present. One morning a fistula of the superior border of the neck is discovered, discharging very freely. The animal is cast; the tract of the fistula, which is deep, irregular and extends to the cervical vertebræ, is cut freely; necrosed cervical ligament is removed and a counter opening made to allow the pus to escape. The wound is thoroughly disinfected and the animal left free. Almost all of a sudden all the previous manifestations of the meningitis have subsided, and the animal could be considered as cured were it not for the wound of the neck. There remains, however, a certain deviation of the tip of the nose, which is of old and no doubt different nature.—(*Jour. of Zootechnie.*)

CHRONIC HEPATITIS [*By M. Chauvain*].—This affection is imperfectly known in our animals on account of its rarity and the difficulty of diagnosis. The author records two cases, the diagnosis of the second being made through the manifestations shown by the first—manifestations which had been very mild and insufficient to call medical attention. The first case was in appearance in good general health, and was able to do his work, that of a hunter, very well. Nothing on him caused suspicion that he had disease of one of his principal organs. One day he hunted with possibly less ardor, and was found dead the next day in his stall. Minute inquiries about him of his condition previous to his dying revealed that, for a month or two before he had been less vigorous, did not start galloping so willingly,

preferred short trotting, groaned when he galloped, objected to be saddled, was sore and groaned when the surcingles were tied on him, moved about when his rider was going to mount him, and when he was once on his back he seemed to fear the pressure of the rider's legs, and groaned when touched with the spur. Still he ate well, but did not gain flesh; he dunged frequently, his fæces being hard first, then soft and of yellow color and at the end diarrhœic. Lastly, he seemed to be asleep, disliked moving, and when made to trot he had to be stimulated with the whip. While those symptoms were not constant, they occurred by intermissions, and seem to justify that one must look out for horses which are tender on the loins and their backs. At the post-mortem of this horse, all the organs were sound, except the liver, which was three times its normal size and weighed 21 kilograms—that is, five times the average weight of a healthy liver. The liver presented a bosselated appearance, with hard tumors of different sizes. It was of a pale, greyish color, hard to cut, and presented in its substance numerous little abscesses, containing a yellowish, thin, odorless suppuration. In the second case, although the animal was lost sight of, the presence of the symptoms observed in the first animal satisfied the author that both had the same ailment, and that the second subject was also one of chronic hepatitis.—(*Rec. de Med. Vet.*)

DIABETES, WITH COMPLETE ATROPHY OF THE PANCREAS IN A DOG [*By Prof. Almy*].—A four-year-old fox terrier slut had a litter of three pups, which she was unable to suckle and which died. Shortly after she became ill, losing flesh rapidly, and had manifestations of polyphagy, polydipsy and polyuria. She is placed under diabetic diet. She shows 20 and 18 grammes of sugar in one litre of urine, which is brought down to 17 grammes by careful diet. She still keeps on losing flesh, becomes very weak, and ultimately dies. At her post-mortem all the organs of the abdomen were found healthy, except the liver and kidneys, which were yellowish and somewhat soft. At the region where the pancreas ought to be found pigmentary deposits are found, and the gland is only represented by a small series of whitish, hard granulations. In the thoracic cavity the left lung was œdematous, and the pericardium and heart were healthy. The remarks made by the author are: "The post-mortem shows an entire atrophy of the pancreas. What is the cause of it? It seems that it has followed parturition. Has there been puerperal infection with pancreatic lesions? The

form of diabetes exhibited by this patient has been pancreatic; acute progress of the affection, intestinal troubles, rapid emaciation of the subject."—(*Bull. Soc. Cent.*)

OSTEOMA OF THE GLUTEAL APONEUROSIS OF A HORSE—REMOVAL—RAPID RECOVERY [*By Prof. Almy*].—A gelding had a hard, painless swelling of the external face of the thigh. It interferes with its sale and must be removed. The animal is in good condition and not lame. On the external face of the thigh, the hairs are staring, and on palpation a hard bony plate is felt of peculiar shape. It is superficial and its outlines can be readily made out. The animal being thrown and the region well disinfected, an incision 25 centimeters (10 inches) long is made, following its greater axis, with the bistoury. The cellular tissue under the skin is isolated and the borders of the plate are defined. With strong nippers it is raised and loosened from the muscles underneath, isolated and removed. The edges of the skin were brought together by stitches. The wound was entirely closed in ten days almost without any suppuration. The plate measured 25 centimeters in length, 10 in width; thin at its borders, it is 5 or 10 millimeters thick in its centre. Under the microscope it shows Haversian canal and osteoblasts well formed. It is certainly an osteoma and not simple calcification.—(*Bull. Soc. Cent.*)

RUPTURE OF THE LIVER DUE TO AN OSTEOMA OF A CHONDRO-COSTAL ARTICULATION [*By M. Remond*].—Ruptures of the liver are not rare, but they generally occur on the right and middle lobes. In this case it was on the left and middle lobes that the seat of the hæmorrhage existed. The cause of it, however, is only problematical. An Arabian horse is found one night dying in his stall and succumbed before the author had time to reach him. Death had taken place without great struggles; the bedding is not disturbed, there had been no colics, and the animal had eaten his night meal well. At the post-mortem the visible mucous membranes seemed pale; the abdomen contained about fifteen litres of uncoagulated blood. The left lobe of the liver was only a mass as big as a child's hand, formed of clots of blood and hepatic remains. At its convex border the capsule was torn by a rupture measuring 7 or 8 centimeters. The middle lobe was the seat of subperitoneal hematomas; it was soft and easily torn. The right lobe is entirely bloodless, covered with a normal capsule, and seems to have undergone amyloid degeneration. Its structure is very soft, puffy in consistency and gray-yellowish in color. On the seventeenth right rib, at the

chondro-costal articulation, there is a tumor plunging into the abdominal cavity, which after maceration in boiling water is as big as the fist, weighing only 40 grammes and made of bony, spongious, rarefied tissue; it surrounds the articulation entirely. What was its nature? Did it act mechanically on the right lobe? Did it press on any of the large blood vessels? All those are questions that cannot be well answered.—(*Rec. de Med. Vet.*)

BELGIAN REVIEW.

SULPHUR AS PURGATIVE FOR DOGS [*By G. Hébrant*].—It seems that it is a common occurrence for people in Brussels to give sulphur to their dogs as a purgative. It is an old habit, which is very difficult to eradicate. The author, with Mr. Mosselman, has already related several cases of intoxication in horses after the administration of too large doses of sulphur, and records a case which occurred in a dog which very fortunately recovered by the administration of carbonate of iron, nux vomica and emollient drinks. The symptoms observed were as follows: At first colicky pains, indicated by groans and restlessness; nauseas and vomiting—later semi-liquid fæces, mixed with dark excrements of very offensive odor; respiration accelerated, great dullness, and comatose condition quite marked. The fæces and vomitings took place at intervals, and were more or less mixed with blood. The pupil had been slightly dilated, pulse quick. There was no odor of sulphurous hydrogen well marked.—(*Annales de Bruxelles.*)

TWO CASES OF OBSTRUCTION OF THE ŒSOPHAGUS IN BOVINES—AN IMPROVISED PROBANG [*By Ed. Conradt*].—The first was a heifer, which presented all the symptoms of choking, and in the pharynx at the entrance of the œsophagus there was a potato which could not be removed with the hand or the means the author had at his disposal. It was then that he resorted to the use of a piece of wire bent in a peculiar way, with which he succeeded at last in having the foreign body coughed up. Not well satisfied with the working of this instrument of impromptu fabrication, he had endeavored to have one made by some makers working on the same plan, but had not succeeded when a second case gave him the opportunity to make one which gave him full satisfaction. This time it was a cow, choked by an apple. All kinds of manipulations were tried and nothing succeeded. Mr. Conradt then asked for a piece of iron wire, 1 m. 75 long (that of a straw or hay bale answers).

He bent it in two and made a loop about the size of the apple, arranging the branches of the curve so as to form a circumference about the dimensions of the foreign body. These branches were then twisted together as far as the ends of the wire. Not without difficulty, the loop of the new improvised probang was slipped back of the apple. After two or three attempts it seemed the instrument would not work, but at the last time, as it was withdrawn, the cow was noticed chewing. She was crushing the apple. She was allowed to drink and swallowed without trouble.—(*Annales de Bruxelles.*)

PROTARGOL IN VETERINARY MEDICINE [*By T. Hendrickx*]. —This is a powerful antiseptic recently used in human medicine and also in veterinary, principally in Italy. The author has had opportunity to try it in two cases with excellent results. In one, a heavy draught horse, had a deep wound of the hock. Severe arthritis, impossibility to use the leg, swelling of the hock, escape of synovia, great suffering, loss of appetite, pulse quick, artery full, temperature raised—all indicated a serious case. The treatment consisted in small tent of solution of sublimate in collodion introduced in the wound. Carried out for three days this treatment gives no result; on the contrary, the case is worse; continued irrigations are then prescribed. After twelve days, no change for the better. The case seemed desperate. It was then that protargol was resorted to. For three consecutive days about 30 grammes of an aqueous solution of protargol, 3 per cent., was injected. The second day improvement was noticed; on the fifth day he was able to walk, and his general condition was improved. A week after the first injection the synovia escapes no more and from that day the animal entered upon convalescence. In the other case a hunter received a wound on the external cartilage of the right fore foot. Wound was deep, irregular, more or less ragged, the corresponding cartilage was involved in three quarters of its thickness. There was repulsive odor. The hoof was loose at the heel and the pus collected under it. There was besides the condition that the horse had been wounded on that foot six months previous. Treatment: removal of the loose horn, dressing with 3 per cent. solution of protargol, changed every day. From the third day the wound improved, cicatrization started and was complete in a month. The same dressing was used by the author in a case of canker, but did not obtain good results. —(*Annales de Bruxelles.*)

PECULIAR LAMENESS OF CATTLE DUE TO SUBSCAPULAR

ADENO-TUBERCULOSIS [*By J. Hamoir.*]—This lameness is caused by the tuberculous hypertrophy of the brachio-scapular lymphatic glands. The author records a number of cases of this nature. The true cause of the lameness had not been recognized until the post-mortem, but in the others the lameness allowed the diagnosis, exact and rapid, during life. *Case* 1. Right shoulder lameness. Post-mortem, thoracic and abdominal tuberculosis well marked; right brachio-scapular glands hypertrophied. *Case* 2. Same location of lameness; pulmonary and hepatic lesions; brachio-scapular glands on the right tuberculous. One is as big as a large nut and full of caseous matter. *Case* 3. Lameness left fore leg, located in the shoulder. Pulmonary lesions, also in the liver. One of the left glands is enlarged; contains caseous tubercles; left olecranon muscles atrophied; corresponding joint healthy. *Case* 4. Lameness left anterior, since three months. Location the shoulder. Autopsy, pulmonary, pleural, bronchial and mesenteric tuberculosis. The three axillary glands are tuberculous. Brachio-scapular glands diseased; articulation sound. *Case* 5. Lameness left anterior; location shoulder; autopsy, pulmonary tuberculosis (parietal and visceral). Axillary glands hypertrophied. Brachio-scapular gland enlarged and the seat of recent tuberculous degeneration; shoulder joint healthy; tuberculous synovitis of the left elbow.—(*Annales de Bruxelles.*)

BIBLIOGRAPHY.

TEXT BOOK OF VETERINARY MEDICINE. By James Law, F. R. C. V. S., Director of the New York State Veterinary College, Ithaca, N. Y. In four volumes. Ithaca: Published by the Author.

While awaiting the compounding of a rather tedious formula in a large prescription pharmacy recently, we violated the proprieties to the extent of running through a large number of original prescriptions which were pasted in a book kept for the purpose, and which is usually preserved indefinitely as a matter of reference and record. We were much edified by the variety of combinations of drugs employed by the numerous well-known physicians represented, and the different forms of therapy employed in the ordinary diseases met with in general practice. But we were chiefly interested in observing the unanimity with which the medical profession have adopted the modern preparations of medicines, and as the particular pharmacy was an old-established one, we induced the clerk to produce the prescription records of the year 1885 for the purpose

of comparison. So different were the large majority of the preparations called for that a physician of that period would have known but little of the substances used to-day. These modern drugs have been brought into general use to meet the requirements of the advances in etiology and pathology, and it is fair to assume that they are a great improvement over the older and cruder preparations.

So it is with our literature. While many of our text-books and works of reference were true exponents of medical science at the time of their publication, such development has taken place, particularly in veterinary science, that the treatises of twenty years ago are not safe guides for students of to-day. English veterinary literature has had many fragmentary additions since the late Principal Williams gave to the world his two volumes upon medicine and surgery, but nothing in the nature of a complete system of medicine has been attempted. It remained for Prof. Williams' old classmate, Prof. James Law, director of the New York State Veterinary College, at Ithaca, N. Y., to undertake this gigantic work, and we are pleased to announce that his task is nearly completed.

Volume I made its appearance as far back as 1896, and was reviewed at the time in these pages. We recapitulate enough here to show the scope of that section, which treated of general pathology, including diseases of the respiratory and circulatory organs, of the blood-vessels and lymphatic system, which was embraced in 410 pages.

Volume II was published during the summer of 1900, and in some 570 pages treated of the diseases of the digestive organs, liver, pancreas, and spleen in all domestic animals.

Volume III has but recently left the printers' hands, and is the largest yet issued, having 600 pages. It discusses the diseases of the urinary and generative organs, skin, eye, and nervous system, together with constitutional diseases.

Volume IV, which completes the system, is in course of preparation, with the prospect of early issuance. It will deal with parasites and parasitism, with infectious diseases, sanitary science and police.

Prof. Law is a plain, forcible writer, is a close observer, has had wonderful experience as a teacher and investigator, and is eminently qualified to perform such an important undertaking, and the English-speaking veterinarians should feel grateful that he has been willing to devote so much labor and time in the preparation of this exhaustive treatise. It has been his

endeavor to place veterinary medicine upon a modern basis, in embracing the latest advances in bacteriology, pathology, and therapeutics, and in recognizing the commanding importance of micro-organisms, not only in contagious diseases, but also in such non-infectious disorders as germs enter into as secondary yet important factors.

With nothing systematically occupying the field since the admirable works of Williams, save translations from the German, we feel that Prof. Law's "Veterinary Medicine" is destined to become a standard authority in English literature.

The different volumes are symmetrical in all respects, save in number of pages, and it goes without saying that every veterinarian's library should be supplied with them. They will be forwarded on receipt of price by the author-publisher.

JESSE BEERY'S PRACTICAL SYSTEM OF COLT TRAINING AND HORSE BREAKING. Illustrated.

This little work, written and published by the above-named gentleman (whose name also appears in the advertising department of this paper in connection with a "Submissive Pulley Bridle"), contains much valuable information and righteous teaching to men in all walks of life, but of especial value to men brought in daily contact with horses, as it reminds us that there is something due these faithful dumb creatures from us, and not all due us from them. It teaches us that we should consider their feelings, study their temperaments, etc., and teaches how to do this. Chapter I begins by saying, "Fear is the principal motive that causes the colt to resist training." It goes on to show that to kick at unknown objects thrown against its heels is but a natural movement in self-defense, etc. A horse being a dumb brute, whose reasoning powers are limited to his past experiences, we must reason with him by acts alone. Hence the importance of beginning every step with the colt right. For by our acts he learns. In order to demonstrate these teachings to a colt, we must first gain his confidence, and we must demonstrate even that to him, as he does not understand words. All this is told us by Mr. Beery, in his own clear, concise way, as we pass from chapter to chapter. He uses the unique argument that not only does it add to a horse's intrinsic value to be properly educated, but that it is due him, that he may have the greatest amount of pleasure out of his life (the greater part of which is spent in harness) that it is possible for him to have and serve man. In another passage he presents a rather original idea, in speaking of "breaking" both sides of

a horse, or all parts or regions of a horse. Illustrating it in the process he terms "poling," which consists of presenting a small pole to a colt for his inspection, and after he has "nosed" it well, and satisfied himself that it is harmless, he passes it successively over all the regions of the body, letting him become familiar with its presence at these various points. Also in his chapter on "kicking," he refers to "breaking both sides of the horse," where he explains how to make the horse cease to kick at us when we enter the stall; he follows with, "In order to break both sides of the horse," and proceeds to explain how to repeat it on the other side. And so all through this little work we find evidences of a close study of "character" in the horse by the author, and a repudiation of anything brutal and unmanly in their handling. He would remind us of how small it is to lose our temper with an animal because it does not do exactly what we tell it, while the poor brute is puzzling its brain to know what we mean, just as we would if given a command in a foreign tongue. He concludes his chapter on "balking" by stating that the control of our own temper is the first essential, and says: "You will feel a glow of satisfaction when you have thus obtained a double victory and not lowered yourself below the dumb beast, but have gained the mastery in a self-respecting way." Each one of the chapters in this book, following "Colt Training," which are "Subjection," "Kicking," "Balking," "Shying," "Running Away," "Bad to Shoe" and "Halter Pulling," first gives the causes of the vice in question, then the means of overcoming it. And the "causes" teach many good prophylactic points to those of us who will never apply the curative methods. After a chapter on "Testimony," which follows these foregoing chapters, comes a "Description of Appliances" (all of which are illustrated), "Promiscuous Vices," "The Over-Check" and "Curb Bit." In this last chapter he turns to our profession for support of his views, and says, "Over five hundred veterinary surgeons have signed a paper condemning tight check-reins as painful to horses and productive of disease, causing distortion of the windpipe to such a degree as to impede respiration. They mention paralysis of the muscles of the face, megrims, apoplexy, coma and inflammation as some of the results of its use." The remaining chapters are devoted to "Teaching Tricks," "Additional Appliances," "Personal Experiences," "Timely Facts and Maxims," and, finally, an appendix devoted to dogs, their sagacity, training, etc. The whole book being a gem of practical

instruction, and neatly bound in cloth in green and gold, with a horse on bended knee before his friend and master upon the cover, it is ornamental in appearance, and, with nearly three hundred pages of reading matter and illustrations, causes one to wonder how it can be furnished for the nominal sum of one dollar, postpaid. R. W. E.

THE NATURE, CAUSE AND ECONOMIC IMPORTANCE OF OVINE CASEOUS LYMPH-ADENITIS. By Victor A. Nörgaard, V. S. (Copenhagen), Chief of Pathological Division, B. A. I., and John R. Mohler, V. M. D., Acting Assistant Chief Pathological Division, B. A. I.

The authors have forwarded us a copy of this paper, reprinted from the sixteenth annual report of the B. A. I., and it gives a very full account of their investigations into this little understood malady of sheep. The colored plates of microscopical fields, as well as those of gross pathological anatomy, are excellent specimens of the lithographic art, and the bibliographical table places the reader in possession of all that can be found upon the subject in every tongue. The experimental work performed by the authors has been quite extensive, and their conclusions are clearly stated. The disease treated of is infectious, caused by the bacillus of Priesz, which is pathogenic to mice, guinea-pigs, rabbits and sheep, and non-pathogenic to chickens and pigeons. It is questionable to the minds of the investigators as to whether it affects horses and cattle, but a typical case has occurred in an Angora goat since their report was rendered. It prevails in certain districts of the western part of the United States, but owing to its benign nature and very chronic course its presence is seldom noticed except upon post-mortem. Fatal cases are practically unknown, and the loss resulting from condemnation of carcasses with extensive lesions is insignificant.

COLLEGE COMMENCEMENTS.

M'KILLIP VETERINARY COLLEGE.

The fifth annual commencement of McKillip Veterinary College was held in the college auditorium, 1639 Wabash Avenue, Chicago, Ill., at 2 P. M., March 29th. The exercises were opened with prayer by Rev. Johnson Meyers, which was followed by an address to the graduating class by Prof. E. Merillat. The class programme consisted in a salutatory address by Dr. H. B. Treman, class prophecy by Dr. B. O. Minge, class history by Dr. H. F. Emich, and valedictory by Dr. R. D.

Scurfield. The Secretary, Dr. L. A. Merillat, announced the standing of members of the senior class, which was as follows: Twenty-one members were entitled to graduation; R. D. Scurfield was awarded the Lovejoy prize for having the best grade for three years' work; Wm. Schumacher, second; H. H. Cohenour, third; T. P. Brankin, honors. C. D. McGilvray received the first prize for best senior grade; J. F. Olweiler, second; R. D. Scurfield, third, and honors to Wm. Schumacher, N. Clark, H. B. Treman, H. H. Cohenour. President M. H. McKillip conferred the degree of M. D. V. upon the following members of the senior class: R. D. Scurfield, Manitou, Manitoba; H. F. Emich, Lima Grove, Ind.; F. W. Buecher, Chicago, Ill.; H. H. Cohenour, Pana, Ill.; W. H. Perrigo, Danville, Ill.; W. I. Gass, Sheboygan, Wis.; J. Gallagher, Chicago, Ill.; T. P. Brankin, Joliet, Ill.; H. B. Treman, Storm Lake, Ia.; B. O. Minge, Faunsdale, Ala.; R. L. Kann, Mechanicsburg, Penn.; Oscar Hartnagle, Victoria, B. C.; C. D. McGilvray, Binscarth, Man.; T. A. Kragness, San Francisco, Cal.; N. Clark, Valparaiso, Ind.; F. C. Willitt, Morristown, N. J.; J. M. Simpson, Mombaccus, N. Y.; J. R. Batch, Chicago, Ill.; J. F. Olweiler, Elizabethtown, Pa.; Wm. Schumacher, Lagrange, Ill.; T. Lambreichts, Montevideo, Minn.

This closes one of the most prosperous and successful terms in the history of McKillip Veterinary College; the number of students in attendance during the present school year was seventy-seven.

CHICAGO VETERINARY COLLEGE.

On March 5th the annual banquet of the faculty and students of the Chicago Veterinary College was given by the trustees at the Sherman House. Ninety-five students and the faculty of twelve partook of the good things set before them. Dr. A. H. Baker acted as toastmaster, and speeches were made by Dr. E. M. Bronson, representing the senior class, Mr. L. S. Robertson of the junior class, and Mr. E. L. Lewis of the freshmen. Dr. A. S. Alexander spoke for the faculty. Several speeches were made by other members of the faculty and students, interspersed with vocal and instrumental selections by members of the class; and a whistling solo, with piano accompaniment, was given by Prof. G. M. Cushing. Being a family affair, undue restraint was noticeably absent, and each one enjoyed himself heartily.

The commencement exercises of the eighteenth session was

held in the college auditorium on Wednesday, March 27th. The following gentlemen received their diplomas and the degree of Doctor of Comparative Medicine: E. M. Bronson, Indianapolis, Ind.; O. A. Kyle, Colfax, Ill.; C. G. Jennings, Marseilles, Ill.; W. R. Michael, St. Jacob, Ill.; Jas. C. Myers, Chicago, Ill.; W. R. Pick, Lodi, Wis.; I. D. Reynierson, Jamestown, Ind.; J. O. Simcoke, Stewart, Ia.; E. B. Ward, Perry, Mo. Dr. Michael distinguished himself by winning the gold medal for the highest general average, also the prizes in theory and practice and anatomy. Prof. A. H. Baker delivered the doctorate address, referring to the present bright prospects of the veterinary profession evinced by the extraordinarily large demands for veterinary surgeons all over the country and large attendance of students, also giving the graduating class some valuable advice, and wishing them godspeed in their future career.

ONTARIO VETERINARY COLLEGE.

The closing exercises of the session of 1900–1901 were held in the college building, Toronto, Canada, March 28. The Principal, Prof. A. Smith, F. R. C. V. S., took the chair, and with him on the platform were: Mr. A. Pattullo, M. P. P.; Prof. Baker, Toronto University; Prof. Mavor, Toronto University; Mr. Hill, Industrial Exhibition, Toronto; Mr. H. S. Wende, V. S., President Ontario Veterinary Association, and Dr. Duncan, M. D. Prof. A. Smith opened the meeting by a short address, and called on Dr. Duncan to read the graduating and honor lists, also the list of prize-winners.

The following is the list of graduates and prize-winners:

Hal. L. Bellinger, Hickory Corners, Mich.; G. Elmer Bitgood, Voluntown, Conn.; William A. Boucher, Minneapolis, Minn.; Francis W. Buckle, Guelph; Hiram Burlingham, Wellington; Thos. Bryant, Wayland, Mass.; William A. Connoly, Fullerton, Cal.; George T. Crowley, New Britain, Conn.; Albert B. Culley, Avon, N. Y.; Frederick A. Davis, Dunstable, Mass.; C. E. Dickerman, Montpelier, Vt.; Geo. B. Duncan, Beloit, Kansas; O. H. Eliason, Scandinavia, Wis.; Chas. H. Epps, Richmond, Va.; Claude C. Evely, St. Thomas, Ont.; R. Frank Erwin, Pickney, Mich.; Fred D. Fordham, Watkins, N. Y.; William D. Forsythe, Southbridge, Mass.; Thomas Fraser, Richmond, Va.; George L. Frese, Elmore, Ohio; Robert G. George, Piqua, Ohio; Walter C. Giller, Rood House, Ill.; Nathaniel S. Glass, Chesley; Charles E. Howard, Leonardsville,

N. Y.; Percy S. Isaacson, Hardingham, Norfolk, England; Matthew S. Kennedy, Carman, Man.; William J. Kirk, Sharon, Pa.; William M. Lowery, Cliton; John P. McCoy, Minden City, Mich.; William McDonald, Florence; George A. McLevey, Florence; C. Arthur Mack, Carberry, Man.; Samuel M. Mizer, Wilmot, Ohio; James J. Murison, Cannington Manor, Assa.; Thomas H. Monahan, Providence, R. I.; William J. Pedden, Parkhill, Ont.; John Perschbacher, Grand Rapids, Mich.; T. Milton Pine, Allisonville, Ont.; L. J. Price, Liberty Centre, Ohio; P. J. Purcell, Bradford, Pa.; J. C. Rasmussen, Tampico, Ill.; Clarence Ransford Richards, Victoria, B. C.; T. Herbert Richards, Beaumaris, Ont.; A. L. Ramage, Calgary, N. W. T.; Zen. W. Seibert, Mansfield, Ohio; John Thomas Sharpe, Carman, Man.; Robert James Shine, Brussels, Ont.; Summer S. Smiley, Carman, Man.; William F. Smiley, Carman, Man.; B. E. Springer, Akron, Ohio; John F. Sylvester, Carman, Man.; F. F. Sheets, Van Wert, Ohio; R. Claude Titus, Hillier, Ont.; F. H. Tucker, Lincoln, Neb.; Carr R. Webber, Rochester, N. Y.; Leslie Willoughby, Elmwood, Ont.; George Wooldridge, Lowell, Ind.

The following gentlemen were awarded prizes for the best examination in the various branches: Diseases and treatment, C. R. Richards; materia medica, Leslie Willoughby; chemistry, Thos. H. Monahan; pathology, Leslie Willoughby; physiology, C. R. Richards; anatomy, C. R. Richards; entozoa, P. S. Isaacson and C. R. Richards; dissected specimens, Leslie Willoughby; best general examination, C. R. Richards. Many other prizes and honors were awarded to both seniors and juniors.

GRAND RAPIDS VETERINARY COLLEGE.

The annual commencement exercises of this school were held in the college auditorium, March 30. Those who received diplomas were Frank Baldwin, George M. O. Olds, Charles E. Hessie, Henry Hayne, Elijah E. Paterson, Eugene F. Brown, Simon A. Welch, E. R. Parker, F. Warner, A. G. Nichols and Charles H. Olds.

The valedictory was given by Henry Haynes, diplomas were presented by Dr. J. B. Griswold, and Dr. L. L. Conkey delivered the closing address.

During the past year the school has had an attendance of 33, and during its existence 71 have matriculated. At the close of the exercises a banquet was given in honor of the class

at Chapin's. Col. M. A. Aldrich acted as toastmaster. Steps were taken after the barquet toward the organization of a State veterinary association.

CORRESPONDENCE.

THE ROBERTSON-SWAIN CONTROVERSY—DR. SWAIN'S REJOINDER.

DECATUR, ILL., April 4, 1901.

Editors American Veterinary Review:

DEAR SIRS:—On the 949th page of your March issue, Dr. James Robertson of, and for, the State Board of Veterinary Medicinal and Surgical Examiners, attempts a defense of himself and the Board against a series of wholesale charges, specifications and positive proof which I preferred against them in the February number of your journal. And, now, while I feel like apologizing to the profession, one and all, for asking them to suffer the infliction of carefully reading that sickly and silly deliverance from the Doctor in your March issue, I do so only because it is supposed to be the best defense that can come from that more or less respected, august, and erudite body; but why they presume to put forth even this bastard and brainless defense is a mystery to me. The Board admits it has never denied a certificate to any applicant, however undeserving and degraded, if only he had the fee. It admits having licensed an invalid from the insane asylum; it pleads guilty to having passed an applicant whom our committee found unable to answer a single primary question; of which fact I refer to the Illinois Veterinary Medical and Surgical Association in proof. The Board admits telling these applicants, against whom plentiful and persistent protests were made, that they need not feel uneasy about losing the $20 fee, in case they failed to pass, because the Board would pass them; and the Board always thus exchanged the license for the fee. I say *the Board admits the truth of all these allegations because they are not denied.* The Board does not pretend to deny nor palliate this infamous practice, *because it can't.* From all over the State would concentrate clouds of witnesses to confound them. They must take their medicine. When conscience and common honesty compelled our committee to condemn this Board and its infamous actions, they answer back that we are "*non-graduates;*" and, when we adduce evidence that many of the world's most eminent men belong to our contemptible

class, they call us "egotists," seeking the association of these giants of earth who walk the mountain ranges of the world. When we prove they have licensed men that are demented they say that "*dementia is much in evidence*," whatever that silly phrase may mean, and insinuate a suspicion of our sanity. When we affirm the fact that we and others protested the unfitness to practice of these applicants, the Board did not deny that fact, but sought to deceive the profession by publishing, as a letter of protest, what was, in reality, an expression of my utter disgust with the Board for its *cringing*, *cowardly*, and *contemptible* conduct, in dereliction of its plain and positive duty. Dr. Robertson knew, when he published that letter as a letter of protest from me, that he was *deliberately trying* to *deceive the profession at my expense.* This act of shameless duplicity, while not open, perhaps, to the charge of *downright lying*, is such a cunning, *careless*, *contemptible*, *twisting* and *torturing* of the *truth*, that, in *courtesy to him*, I will call his conduct *cowardly* prevarication.

He has there on file two thoroughbred letters of vigorous protest from me, dated July 28th and Dec. 16th, 1899, which the Board will never publish. I think I have answered Dr. Robertson's deliverances fully and fairly. He says he "shot, at random at our committee and hit the king bee of the hornets' nest and hurt him badly." In behalf of our committee I may say his assault was like bombarding a stone-wall with mush poultices. If our committee report was false it was calumny, and should have called out their cannon. But when we smote them on one side they turned the other, and when we apply the lash they offer no resistance, but simply lie down and seek to be funny. His defense of our arraignment, either as a literary or logical fulmination, is a complete, flat, and foolish failure. He purposely perverts certain parts and passages of my article, seeking in the absence of originality to steal his neighbor's thunder in search of lightning. Doctor, when in battle never go over to the enemy to borrow ammunition.

But, to be candid, I must confess the Doctor's article, however soft and senseless, is vastly better than I expected, for you know "*ex nihilo nihil fit*"—"out of nothing, nothing can come." The Doctor once expressed a haughty, imperious and blood-curdling contempt for the whole kit and clan of us poor plebeian non-graduates, but he says *now* he has the profoundest respect for most of them—*except me. He pities me* for allowing the lurid scintillations of my cerebrum to shatter the vase

and letting the overflowing fountain of my "undoubted talent run wild." Now, isn't it true that a recent rasping the Doctor received from us had some potency in pumping into him some of this "profound respect" for my recently despised but now profoundly respected compeers? I have stated in this article that this State Examining Board admits having licensed men to practice who are absolutely unqualified. With their *qualifications* this Board claims to have *nothing to do.* In the name of outraged decency and honor, and in behalf of the profession at large, I say: *Shame on such official infamy.* Mr. Editor, I will prove every allegation I have uttered; and truthfully paint this incompetent Board so black that the aroused profession must remove them.

In answer to my letter of December 16, 1899, in which I severely criticised the Board for its shameful conduct, I have the Secretary's answer defending the Board's action. He does not deny granting licenses to every applicant, but says the law (prior to January 1st, 1900) *compels* them so to do, provided the applicant proves that he has practised three years or has a diploma. Thus armed, and, barring only by immoral character, this guileless goodly Board says it is compelled to grant licenses to every applicant or be subjected to mandamus process, compelling it to violate the trust imposed in it. Such is the Secretary's interpretation of the law, by which he justifies the Board's guilt prior to 1900. "But," says he, "after the time limit (January 1, 1900) of this law, then rest assured that not only non-graduates but *all holders of diplomas from two-year colleges will be compelled to come before the Board and pass the examination* as required by the law." Holy Moses! I said, here is a virtuous deliverance that could only come from an immaculate conception. Prior to January 1, 1900, the Board claimed that the law bound them to license every applicant, and they did so, freely—for the fee; but, the law explicitly states that an examination before this Board of examiners touching the applicant's qualifications to practice veterinary medicine and surgery in the State of Illinois "*shall be discretionary with the Board.*" This the Secretary of the Board denies; hence their wholesale licensing and cowardly cringing before every illiterate tramp that came before them holding up the fee.

We respectfully submit that the law not only *permitted* but *made it the imperative duty of this Board to examine these men under the law prior to the time limit when they had a suspicion of the applicant's utter incompetency, and especially when such sus-*

picion was reduced to a certainty by protests being filed against them by many of the best members of the profession in the State. Such was the Board's status under the old law or prior to January 1, 1900. Now, what would any competent and conscientious Examining Board do in the presence of these applicants, these facts, and these protests? What would I do? I would say: "Gentlemen, I am here to safeguard the highest interests of the veterinary medical and surgical profession in the State of Illinois. Prior to January 1, 1900, the law leaves it optional with the Board whether it shall license you after three years' practice without an examination, but, against each of you, gentlemen, there are lodged and on file here some very *emphatic protests from the profession* against your being licensed, and thus, the Board by this act of the profession, must exercise its discretion and subject each of you to an examination."

But the Board, after January 1, 1900, as we have noted, promised in effect: "Never to be caught in another scheme or scrape and to never let another guilty man escape." The Bible declares: "He that knoweth his duty and doeth it not shall be beaten with many stripes." But they grew gradually and greatly worse, fell from grace, lost their religion, and became so ungodly that they actually sold licenses to practice veterinary medicine and surgery to every trifling devil that applied and paid the fee. This latter was "the alpha and omeg a," the beginning and the end, the first and the last and the "*sine qua non*," that is, without which there is nothing. Judas Iscariot sold the Saviour for 30 pieces of silver, but this Board sold out the veterinary profession in the State of Illinois *for 20 pieces.* Judas had the decency to go out and hang himself, but this Board hesitates even after our committee has made its duty plain. When the devil took the Saviour up on the mountain and offered him all the kingdoms and glory of the world if he would set aside principle and fall down and worship him, what do you think, under the circumstances, would have been the status of this Board? Why, each mother's son would have gone down on his knees, for the first time in his life, with hands up, offering to sell his soul to the devil for half the sum. My reason for expressing this belief is because I know they have sold themselves to a bigger fool than the devil for a devilish sight smaller sum.

Notwithstanding all this, there is something about this Board we must admire; under the terrible rain of shot and shell our committee was forced to focus upon them they only

squirmed and grinned, and when we uncovered and began to dissect them, they good-naturedly made fun of their own funeral. Against this Board, personally, I cannot feel the slightest prejudice nor displeasure. I doubt not they are the mildest mannered men that ever "scuttled ship or cut a throat," and, as husbands, fathers and friends, they may be faithful, they may be even elegant, ideal, and an ornament to any social circle, but while all this may be true, the same could be said of King Charles the First, and yet the good people of England were *reluctantly compelled to depose him from office and cut off his head because his official conduct was a curse to the state.* We recommend this Board to the clemency of the outraged profession of the State.

Respectfully, S. H. SWAIN, V. S.

NEBRASKA'S NEW VETERINARY LAW.

LINCOLN, NEB. April 24, 1901.

Editors of American Veterinary Review:

DEAR SIRS:—It affords me great pleasure to notify you that after a struggle of ten years the Nebraska Veterinary Association has finally succeeded in passing a law creating the office of State Veterinarian. This credit, however, is largely due to the Legislative Committee of that association, of which our esteemed Dr. Ramacciotti was chairman, and to his untiring efforts we are indebted for the success attained in having this bill become a law. The entire veterinary fraternity of the State rejoices over the good fortune of having at last succeeded; and although the bill does not provide for as much as we should like we have great hopes in the future of bringing it to as good a law as any in the United States.

Very truly yours,

A. T. PETERS.

SOCIETY MEETINGS.

CALIFORNIA STATE VETERINARY MEDICAL ASSOCIATION.

The regular quarterly meeting of the California State Veterinary Medical Association was held at the Maison Faure, Sacramento, Cal., March 18, and was called to order at 8 P. M. by President Sullivan.

Upon roll-call the following members responded: Dr. H. A. Spencer, San José; Dr. G. F. Faulkner, Salinas; Dr. A. S. Williams, Marysville; Dr. Jas. Sullivan, Suisun; and Doctors D. F.

Fox, A. M. McCollum, C. L. Megowan, and C. H. Blemer, Sacramento. Visitors: Dr. J. Otis Jacobs, Bureau of Animal Industry, Reno, Nevada; Prof. F. E. Twining, veterinary bacteriologist, Fresno, Cal., and Hon. Elwood Bruner, Sacramento, Cal.

The minutes of the previous session were read and approved.

There being no unfinished business, or reports of Secretary or Treasurer, the regular order of business was passed to reports of committees.

The Committee on Resolutions appointed to draught and present resolutions to His Excellency, Governor Henry T. Gage, protesting against the action of one of the directors of the State Agricultural Society in appointing a non-graduate and non-licentiate to the position of "track veterinarian" at the California State Fair, asked for an extension of time. Dr. McCollum stated that this matter had been put off from time to time and that he protested against any further delay. Dr. Blemer remarked that while he was very anxious to see this matter given prompt attention he did not think the efforts were directed in the proper channel; he thought that the matter should go to the Directors of the State Agricultural Society and not to the Governor, and further requested that his name be dropped from said committee, and suggested that the name of the President be substituted therefor. Dr. Spencer moved that Dr. Blemer be dropped from the Committee on Resolutions and Dr. Sullivan be substituted in place thereof. Carried.

Dr. Spencer moved that the original motion under consideration be amended by striking out the words "resolutions to the Governor," and inserting in lieu thereof "resolutions to the directors of the State Agricultural Society," and that said resolutions be drawn and presented immediately, and that press copies be made of same. Carried.

Dr. Spencer stated that as a member of the committee for the advancement of this association, he not only desired to see new members enrolled but was equally anxious to have old members, who had dropped out for various reasons, come back into the association, and thought that every possible endeavor should be made to accomplish this. He spoke to some length relative to brother veterinarians of Southern California, and paid them many high compliments, not alone as veterinarians, but as scholars and gentlemen, and moved, "that the Secretary be instructed to correspond with the veterinarians of Southern California and ask each of them individually to resolve himself into

a committee of one to ascertain from each other if it is not possible to revive interest in State Veterinary Medical Association matters, and, furthermore, that the place for the next quarterly meeting of this association be held open until answers were received from Southern California and in the event of said answers being favorable that the next quarterly meeting be held in the city of Los Angeles." Carried.

Dr. Spencer further requested the members present to pledge themselves, in the event of favorable replies from Southern California, to attend the Los Angeles meeting, which was done by all present.

Under " Reading of Papers, etc., and Discussion," the regular order was suspended to allow the etc., to precede the reading of papers. The etc. consisted of a complete dinner for each member and guest present. Dinner from cocktail to nuts and coffee, with frequent administrations of wines of various colors and brew. The guest of honor and toastmaster, Hon. Elwood Bruner, ex-member of the Legislature, in his very able manner reviewed the early history of this association and told of how proud he was to have been the champion of the veterinarians in the Legislature of 1891, and the pleasure it would give him to champion their cause at any and all times. The possibilities presented to the veterinarians of to-day in guarding the health of the people of the commonwealth, was ever expanding and that the people were rapidly learning to look to the veterinarian for protection.

Doctors Spencer and Blemer replied to Mr. Bruner, thanking him warmly for his past and present interest in the association and the veterinary profession. Dr. McCollum, in speaking of the veterinarian as a sanitarian recalled many cases in which the veterinarian had been of inestimable service to the health of the people, and reviewed the work inaugurated and carried out under the direction of veterinarians, that of the testing and destruction of tuberculous cattle. A most interesting discussion was the result of the Doctor's talk, especially the proper statutory laws under which this disease (tuberculosis) could be properly controlled, and the destruction of tubercular germs in beef.

Dr. James Sullivan was to have presented a paper on "Prophylaxis," but stated that owing to pressure of business he was unable to prepare the same.

Dr. F. E. Twining, veterinary bacteriologist of Fresno, Cal., spoke on several subjects, particularly regarding the use of hog-cholera serum as prepared by himself, and the good results ob-

tained; also on the fever-producing principle of tuberculin. He gave the methods of obtaining this substance, and stated that in his opinion it would be the diagnostic agent of the future for tuberculosis, producing as it does, succeeding reactions within a few days apart. Two rare and interesting diseases were spoken of—one among colts resulting in the death of 50 per cent. of the animals affected. Post-mortem examination developed the fact that large numbers of the *Schlerostoma Equinum* or "Armed Schlerostome," were present in the viscera, having passed through the walls of the intestines and invaded almost every organ of the body Another case was that of a disease among Angora goats which had in about twelve months killed 1300 of a drove of 1500. The animals became extremely emaciated and apparently starved to death, although conditions of feed and climate were changed from time to time. On post-mortem a condition of extreme anæmia and emaciation were found, although all organs appeared normal. Microscopic examination of the blood revealed the presence of a micro-organism within the red blood corpuscles. Replying to questions from Dr. Blemer, Dr. Twining stated that the micro-organism was a protozoa resembling very much that of malaria in the human and Texas fever in the bovine, and that careful examination did not reveal any external parasites on the goats, such as ticks, etc. He stated that investigations and experimental work are now under way and hoped to be able to tell more of the disease later on.

Dr. D. F. Fox, of Sacramento, read a most interesting paper on "Epizootic Pleuro-Hepatitis," and his experience with the same, a disease now prevailing among the horses of this county. The discussion which followed was taken part in by all present.

The Secretary read a paper on "Verminous Bronchitis of Calves," * a most fatal and infectious disease prevailing in parts of California.

The meeting then adjourned to meet at the call of the President in June, 1901.

CHARLES H. BLEMER, D.V.S., *Secretary.*

IOWA AND NEBRASKA VETERINARY MEDICAL ASSOCIATION.

The second annual meeting took place at Omaha in one of the parlors of the Merchants' Hotel at 2.30 P. M. on November 20, 1900, and was called to order and presided over by President Dr. J. E. Brown, of Oskaloosa, Iowa.

* Will appear in an early number of the REVIEW.

The Secretary and Treasurer, Dr. J, S. Anderson, of Seward, Nebraska, being absent, Dr. J. J. Drasky, of Crete, Nebraska, was duly elected Secretary and Treasurer *pro tem.*

The minutes of the previous meeting were read and after some corrections were approved. It was moved, seconded and carried that the minutes should read that the committee on organization recommend that the temporary organization be made permanent, and that the members of the Iowa and the Nebraska associations in good standing were eligible to membership in this organization on paying a membership fee of fifty cents.

The President appointed the following Committee on Resolutions: Dr. A. T. Peters, of Lincoln, Nebraska; Dr. H. E. Talbot, of Des Moines, Iowa, and Dr. M. V. Beyers, of Osceola, Nebraska.

Under the head of new business Dr. Peters made a most able speech in regard to the elevation of the army veterinarian. This question was discussed by other members present and it was the opinion of them all that the association should use its influence, and that the individuals should use their influence upon our congressmen and senators in behalf of the army veterinarian. It was moved, seconded and carried that the Committee on Resolutions be instructed to draw up a set of resolutions to be be sent to the representatives in congress asking them to use their votes and influence for the elevation of the army veterinarian.

Dr. Ramacciotti, of Omaha, Nebraska, president of the clinics, announced that the subjects would be ready on the afternoon of the following day and that the clinics would take place in his infirmary.

It was moved, seconded and carried that Dr. Ramacciotti be empowered to choose any of the members of the association to assist him in the clinics. He chose Dr. Talbot, Dr. Brown, Dr. Drasky, Dr. Peters and Dr. Gibson to operate on such subjects as he might assign to them.

The annual address was delivered by President Dr. Brown * in an able and pleasing manner and was commented upon by Dr. Talbot, Dr. Miller, Dr. White, Dr. Parstow, Dr. Drasky, Dr. Leslie, Dr. Vincent and Dr. Everat.

Dr. J. G. Parstow, of Shenandoah, Iowa, read two papers, one on "Hypo-Sulph. Soda Poisoning," * which elicited from quite a number of the doctors present a lively discussion, and the other one, entitled "Cæsarean Section in a Cow."

* Will be published in an early number of the REVIEW.

A paper was read by Dr. J. H. Gain, of Seward, Nebraska, in which the doctor discussed an operation in the treatment of impervious [?] urachus.* While this is a new departure in the treatment of this trouble, it seems that the doctor has certainly found a radical cure, which promises to do credit not only to its author, but to the entire profession as well. Many of the doctors present took part in the discussion of this interesting paper.

On motion, the chair appointed Dr. Parstow, Dr. Gain and Dr. Leslie an auditing committee, which was requested to report at once. The committee reported that the Secretary and Treasurer's books were in harmony with his report, and recommended the same for acceptance, which was at once voted upon and carried.

On motion, the meeting adjourned to meet at seven o'clock P. M. of the same day.

At 7.45 P. M. the association was called to order by the President, and the following gentlemen were found present: Doctors J. E. Brown, J. J. Drasky, J. G. Parstow, H. E. Talbot, D. H. Miller, S. T. Miller, W. H. Austin, V. Shafer, M. V. Byers, W. A. Hammond, James Vincent, Fred Evans, J. H. Gain, T. White, Bostrom, Gibson, Young, McKim, Crosford, Everat, H. Dell and W. Thomas; Messrs. Duff, of Chicago; McIntosh, of the *Nebraska Farmer;* Janak, editor of *Hospadr;* Adams, John M. Pattar, J. W. Haxby and S. L. Kostoryz, editor of *Osveta.*

Dr. Peters spoke on the subject of immunization of hogs against hog cholera. This speech was discussed by Doctors Vincent, Gibson, Young, Drasky, Brown, Thomas, Miller and Evans.

It was moved, seconded and carried that the chair appoint a committee of six, with Dr. Brown as the chairman, to investigate and report on the subject of hog vaccination.

Dr. Ramacciotti reported that the last year's clinics had been a complete success, which was pleasing to the operators.

A somewhat heated discussion arose among the doctors on the subject, "What I Saw in Omaha." While this discussion took on an unpleasant aspect at times, yet it closed leaving the parties concerned on general good terms, and Dr. Drasky's action was approved by all the doctors present. It was hoped that no unpleasant nor unfriendly relations existed after the discussion.

The report of cases was taken up by Dr. Thomas. In his report on parturient apoplexy the doctor confirmed his opinion

* Will be published in an early number of the REVIEW.

expressed in a paper on the same subject read before the Nebraska Veterinary Medical Association some time ago, wherein he was of the opinion that we will find brain lesions on post-mortem examinations of subjects dying of this disease. The doctor showed a brain with a large blood clot in the medulla oblongata. He urged that practitioners make post-mortem examinations of all subjects dying of this malady and keep a record of the same.

On motion, the meeting adjourned to give room to the Nebraska Veterinary Medical Association, to meet again at 9.30 A. M. of the following day.

At 9.30 A. M. the President called the association to order.

Dr. Drasky reported on a case of "Sorghum Poisoning, or What?" This case was discussed by Drs. Parstow, Miller, Peters, Miller, Leslie, Vincent, Austin, Evans and Brown.

Dr. Gibson reported on "Hybrid Pumpkin Poisoning." Discussion by Drs. Leslie, Brown, Drasky and Bostrum.

Dr. Gain reported on a case of "Ridgling," in which the gland was found attached to the spleen.

Dr. Gain reported a case of "Malanosis."

Mr. Adams was introduced to the association by Dr. Ramacciotti. Mr. Adams is an old-time friend of the profession, and is the father of one of the veterinary bills which was passed in this State some years ago. He made an extensive and able address to the association, in which he urged that the doctors continue in their struggle to secure legislation to the effect that the veterinary surgeon be recognized and protected by law. He very kindly offered his aid and assistance to the association and to the profession in their efforts along this line.

Upon motion, Mr. Adams was made an honorary member of the association by a unanimous vote, and a vote of thanks was also given him for his kindly offer of assistance to the association.

The election of officers resulted as follows:

President—Dr. Ramacciotti, of Omaha, Nebraska.

Vice-President—Dr. Austin, of Newton, Iowa.

Secretary and Treasurer—Dr. J. J. Drasky, of Crete, Nebraska.

The following Board of Censors was appointed by the Chair:—Doctors Byers, Evans, Talbot, Miller.

It was moved, seconded and carried that the Secretary and Treasurer be instructed to pay Dr. Anderson $1.05 due him.

It was moved, seconded and carried that Dr. Ramacciotti be reimbursed for his expense of the clinics.

Dr. Parstow was appointed a committee of one to wait upon Dr. Ramacciotti and conduct him to his chair, where he was presented with the gavel by the retiring President. The new President delivered a short speech of acceptance.

Dr. Brown, the retiring President, delivered a very enthusiastic speech, which was greatly enjoyed by the association.

A bill of $ was allowed in favor of Dr. Brown, and the same was paid.

The Secretary was instructed to draw a set of resolutions thanking the Merchants' Hotel for the accommodations extended to the association during their meeting, which was at once done.

The association adjourned, on motion, to meet at two o'clock P. M. of the same day, at the office of Dr. Ramacciotti.

At two o'clock P. M. the association met in the office of Dr. Ramacciotti, where the clinics took place.

Dr. Ramacciotti was appointed to act as president of the clinics for the coming year, and he promised to have a great variety of subjects and everything in readiness so as to warrant the greatest thing in the shape of clinics yet undertaken in Omaha.

The association adjourned on motion to meet next year at the call of the President and Secretary.

J. J. DRASKY, *Secretary.*

NEWS AND ITEMS.

DR. TOTTEN, of Indianapolis, has been transferred to the quarantine service with headquarters in Kansas City.

DR. MCCALL, of Spencer, Iowa, and Dr. Robt. Jay, of Davenport, have recently been appointed inspectors in the Bureau of Animal Industry, and stationed at Kansas City.

DR. R. FRED EAGLE, of Kansas City, Kans., and Dr. C. W. Barnhart, of Udal, Kansas, are veterinarians in charge of consignments of horses and mules in transit from New Orleans to Capetown.

WHEN the prices brought by the thoroughbreds consigned by the estate of Marcus Daly to sale in New York were footed up it was found that the aggregate was $404,550. Less than 150 head were included in the offering.

DR. B. F. KAUPP, of Kansas City, is taking a well earned vacation, and is sojourning in Galveston, Texas. While away he will look after some investments in the new exciting oil fields of Beaumont, Texas, and where he is hoping to develop a gusher.

DR. A. T. PETERS, of the University of Nebraska, Lincoln, spent the major portion of April nursing a fractured fibula, sustained while in the discharge of duty at the Experiment Station farm. Last reports credited him with such rapid convalescence as to give promise of complete restoration in a few weeks.

DRS. L. A. AND E. MERILLAT, of Chicago, have disassociated themselves from the large practice of Dr. M. H. McKillip, and have begun business upon their own account in the Windy City. Correspondence having reference to the "Department of Surgery" in this journal should be addressed to them at Indiana Avenue, Chicago, Ill.

WHAT is thought to be the largest goat ranch in the world is located near Lamy, N. M. It covers 28,000 acres of land and harbors 17,000 head of Angora goats more or less well graded up. It has a warehouse and factory in Philadelphia where the product of the ranch in skins and mohair is worked up into the shape in which it commands the highest price in the metropolitan market.

MORE AUTOS GIVE UP.—The New England Automobile Co. has gone the way trodden by the Illinois Electric Vehicle Co. a few weeks ago. In the report furnished relative to outgo and intake this New England company stated that its income had been something like $93,000 in a stated period, while its expenses for all accounts had been upwards of $211,000, leaving a deficit so large that it was not deemed wise to go ahead with the venture.

HIGH PRICES FOR HORSES.—As an evidence of the vitality of the horse market at present the average price realized at the great New York sales of trotters and pacers is interesting. One firm in the Eastern metropolis has sold since Nov. 1, 1900, around 1500 horses, old and young, good, bad and indifferent, ranging from The Abbot, 2:03¾ (which sold for $26,500), the champion trotter of the world, down to a yearling colt that will never do much for his owner. The average price realized for this great number of horses is right at $450, a figure that was hardly hoped for again in the dark days of 1894, 1895 and 1896.—(*Breeder's Gazette.*)

THE UNITED STATES DEPARTMENT OF AGRICULTURE maintains more than fifty agricultural experiment stations in the various States of the Union. Bulletin 93 of the Agricultural Department consists in a report of the work and expenditures of these stations for the year ending June 30, 1900, and is very instructive. The Government appropriation for their mainte-

nance is $719,999.07, which with the sums received from the various State governments, fees, farm products and miscellaneous items, make a grand total of $1,170,857.78. There are employed by the various stations 29 veterinarians. There should be one at each station.

GOOD EXAMPLE BY MANITOBA.—Dr. F. Torrance, Registrar of the Veterinary Association of Manitoba—also a Vice-President of the American Veterinary Medical Association—publishes as an advertisement in *The Farmers' Advocate*, of Manitoba, a list of the members of the association, and says: "Under the authority of Secs. 18, 19, 20, 22, and 26 of the Veterinary Association Act, 1890 (53 Vic., Chap. 60), the following persons only are entitled to practice as veterinary surgeons in the Province of Manitoba, or to collect fees for the service rendered as such." * * * "The practice of the veterinary profession in Manitoba by any other person is in direct contravention of the statute, and renders him liable for prosecution."

SECRETARY STEWART, of the A. V. M. A., under recent date, advises us that volunteering essayists for the Atlantic City meeting are very tardy in notifying him of their intention to present papers, and consequently it prevents any announcement being made of the prospective programme. He has made special invitation to the new members and those who have never hitherto contributed to this part of the convention, reserving the "war horses" for emergencies; but he is beginning to fear that the new field will not respond in sufficient numbers. A member should certainly feel it a great privilege to be able to present an original thesis before the National Association, and we trust that by the time another issue of the REVIEW is ready for its readers we will be able to announce that the programme is full to overflowing.

R. T. HARRISON, a dog breeder and fancier, of New York City, sued the Adams Express Company for the value of a Japanese spaniel dog, which he shipped to the Danbury (Conn.) dog show in 1899, and which died shortly after its arrival. His arrangement with the company was that the dog should be shipped on a certain train which Harrison took passage on, so that he could care for it *en route;* but they delivered it upon an earlier train; it arrived at its destination, with no one to receive it, and was returned to New York, where a telegram ordered it to be sent back to Danbury. Thus the little fellow, with three or four others, was kept many hours without nourishment, and

it was alleged at the trial that in consequence it died. A verdict for $240 was rendered, which was appealed by the company, and the higher court has just reaffirmed the first finding.

DR. WM. HERBERT LOWE, so well known to veterinarians throughout the country, has been seriously ill at his home in Paterson, N. J., since April 3, from an exaggerated and extremely painful attack of inflammatory rheumatism, being confined to his bed and in charge of a trained nurse. Our last advices are that he is somewhat improved, though it is thought that considerable time will be required for complete convalescence. His last act was to attend the meeting of the New York County Veterinary Medical Association on the night of April 3 to arouse interest in the coming meeting of the A. V. M. A. at Atlantic City, his attack overtaking him on his trip homeward. He was so earnest and enthusiastic in his efforts to make the coming convention the greatest ever held that we fear he overtaxed his system, robust as it has always been. We offer our sincere sympathy, and trust that he may soon be restored to health and be able to see the fruition of his ardent hopes.

PRECAUTIONS AGAINST FOOT-AND-MOUTH DISEASE.—A Washington telegram, dated April 2, has the following: "The cattle on the continent of Europe are so diseased that this Government will not permit the admission of any animals from there. The officials of the Agricultural Department are watching closely all reports from abroad regarding the extent of the foot-and-mouth disease, a fatal malady that is raging among the live stock in almost every country throughout Europe. For the last three years the outbreak has been general on the European continent, and the recent reports from various foreign ports do not indicate any diminution in its extent. This Government, as it has done since the epidemic reached such alarming dimensions, is refusing to admit any cattle, sheep or swine, except from the British Isles. This is done not only to protect the live stock interests of this country, but also to protect our $30,000,000 or $40,000,000 annual export trade in cattle."

INTERNATIONAL TRADE IN CATTLE—AGREEMENT WITH CANADA.—The memorandum of agreement made in connection with the testing of cattle for tuberculosis between the Canadian Minister of Agriculture and Dr. McEachran, Chief Inspector, representing the Canadian Department, and Secretary Wilson and Dr. Salmon, of the United States Department of Agriculture, is as follows: "1. The certificates issued by inspectors, specially selected and duly appointed as officials of the govern-

ment of Canada, will be accepted for breeding cattle and dairy cows over six months old, at United States ports. 2. The certificates of Canadian veterinaries of cattle tested by them in Great Britain, accepted at Canadian quarantines, when indorsed by the chief inspector of veterinary superintendents of the quarantine, will be accepted at United States ports of entry. The following are the veterinaries of the Dominion Department of Agriculture to apply the tuberculin test to cattle exported to the United States: W. H. Pethick, Central Bedeque, Prince Edward Island; W. M. Jakeman, V.S., Halifax, N. S.; J. H. Frink, V.S., St. John, N. B.; J. A. Couture, V.S., Quebec; A. E. Moore, C. H. Higgins and V. T. Daubigny, veterinarians, of Montreal, Quebec; George W. Higginson, V.S., Rockland, Ont.; William Stubbs, V.S., Toronto; Charles Little, V.S., Winnipeg; J. C. Stargreave, V.S., Medicine Hat, N. W. T.; J. B. Hart, V. S., British Columbia."

THE LAW AGAINST EXPOSING GLANDERS.—We have received several letters from veterinarians, mostly from the Borough of Manhattan, New York City, inquiring as to the law under which a Brooklyn veterinarian was fined $250 for having caused to be led through the streets a horse suffering from glanders and farcy. In answer to our various correspondents we append a copy of Section 658 of the Penal Code, which is as follows: "*Sec. 658. Selling or offering to sell, or exposing diseased animal.*—A person who wilfully sells or offers to sell, uses, exposes, or causes or permits to be sold, offered for sale, used or exposed, any horse or other animal having the disease known as glanders, or farcy, or other contagious or infectious disease dangerous to the life or health of human beings, or animals, or which is diseased past recovery, or who refuses upon demand to deprive of life an animal affected with any such disease, is guilty of a misdemeanor." Numerous prosecutions have been obtained under this law for leading glandered horses through the streets, omitting to have horses killed after knowledge of their condition, refusing on demand to have a glandered horse shot, etc. Selling a glandered horse has been punished by a fine of $300, $250, etc. A man permitting his horse to drink from a public trough, he knowing the animal to be diseased, has been held to be liable to an owner of a horse contracting the disease from that source. In the case of a man named Garson, who sold a glandered horse in New York, as far back as 1877, the offender received a sentence of six months' imprisonment in the penitentiary.

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"IT GIVES ME PLEASURE to say that the information gained through the columns of the REVIEW during the past year is to me, and should be to every veterinarian, well worth ten times the price of a year's subscription."—*Charles H. Blemer, D.V.S., Sacramento, Cal.*

"I FEEL JUSTLY REPAID for my investment for the REVIEW during the past year. No one practicing veterinary medicine can afford to be without it, and more especially the young practitioner. I, for one, find many valuable hints, which I endeavor to apply in my practice. I shall endeavor to contribute any cases of interest which may come under my observation."—*C. H. Jewell, D. V. M., Dunkirk, N. Y.*